

THE RELATIONSHIP BETWEEN ENVIRONMENTAL
UNCERTAINTY AND BUSINESS-LEVEL STRATEGY
IN THE TELECOMMUNICATIONS SECTOR IN
GHANA

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ABSTRACT

The study of the relationship between environmental uncertainty and business-level strategy has received less attention in developing economies, especially in sub-Saharan Africa. The aim of this thesis is to examine perceived uncertainty in a developing country to find out how organisations strategically respond to this phenomenon. Using a purposive sample method, one of the six licensed telecommunications organisations in Ghana was selected for an in-depth case study. The qualitative research method was used for data collection and analysis. The results showed that the high level of perceived uncertainty in the telecommunications business environment in Ghana influenced the organisation to adopt informal planning, focused on short-term objectives in order to respond quickly to the turbulent and unpredictable environment. The study concluded that customer behaviour, economic instability and regulatory environment were the most influential external environmental factors that affected strategic decisions in the telecommunications sector in sub-Saharan Africa. In exploring the relationship between environmental uncertainty and business-level strategy the study found a link between environmental uncertainty and the selection of business-level strategy in an organisation in sub-Saharan Africa. The result of the study contributed to the debate in the literature that the strategic response to the perception of the environment by managers in sub-Saharan Africa operating in a different cultural backgrounds was not different from managers in the developed world.

DEDICATION

This thesis is dedicated to the memory of my late wife Josephine Afua Ani.

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CHAPTER 1

INTRODUCTION

1.1. INTRODUCTION

Recent technological developments and opportunities in the telecommunications sector led governments in Africa to partly privatise state owned telecommunications companies to attract the needed foreign investments in the early 1990s.

The change in policy towards deregulation and privatisation contributed to the licensing of six (6) telecommunications companies to operate in Ghana.

From the 1990s, the telecommunications sector has experienced major changes in legislations, regulations, technology et cetera. The consequence of these changes has created a public perception in Ghana that the sector is the most dynamic industry in the country.

It is based on such dynamic business environment as described, that Duncan (1972, page 325) suggests:

“Decision units with dynamic environments always experience significantly, uncertainty in decision making regardless of whether their environment is simple or complex.”

The problem of environmental uncertainty in decision making in organisations has attracted several organisational behaviour writers (Chandler, 1962; 1977; Aldrich, 1979; 1999; Downey and Slocum, 1975; Downey et al., 1977; D’Aveni, 1994; 1999; Hannan and Freeman, 1977; 1989; Porter, 1979; 1980; 1985; 1991; 1996; 2001; Pfeffer, 1972 ; 1982; 1992; Mintzberg, 1978; 1979; 1987; 1988; 1990; 1994) who have all carried out more than one investigation on the subject.

However, the critical literature review observes that most of these studies concentrated on countries from the developed economies.

This gap in the literature was identified by Kim and Lim (1988, page 802) when they investigated the contingent value of strategic orientations in China. They argue:

“Many of those studies, however, undertaken in relatively mature or declining industries and oriented predominantly towards the industrial organisation economies discipline... Furthermore, these studies have primarily focused on a developed economy, the United States.”

After a decade of Kim and Lim’s (1988) observation, the problem of excluding developing countries from strategic fit research has still not yet been resolved by researchers.

Consequently, Lukas et al. (2001, page 410) argue:

“For the most part, emerging market economies, such as developing countries in Asia, Latin America, Africa, and the Middle East, as well as transitional economies in the former Soviet Union and China, have been excluded from strategic fit research; this is partly because of their recent economic and political underperformance or isolation and partly because of strategic management research’s distaste for replication. As a result, the strategy management discipline cannot be sure of the paradigm’s universal applicability, which in turn limits theory building.”

Gao et al. (2006, page3) in their contribution to the literature on strategic management and organisational behaviour argue:

“To date, research on strategic orientations has been conducted mainly in Western countries, leaving the generalization and boundary conditions of findings an open issue for settings, such as transitional economies.”

From the argument of Gao et al. (2006), as at 2006 the gap in strategic management literature between the developed and developing economies was still a problem.

From the foregoing, literature on strategic management can be criticised for leaving out the research opportunities in sub-Saharan Africa.

Critically examining the arguments by Kim and Lim's (1988), Lukas et al. (2001) and Gao et al. (2006) one can conclude that:

Western strategic management theories and practices have not been adequately researched into in sub-Saharan Africa; hence these theories and practices lack universal applicability.

The aim of this study is therefore to explore the applicability of the strategic fit paradigm in sub-Saharan Africa as a contribution to the literature on strategic management.

1.2. THEORETICAL BACKGROUND

The critical literature review is divided into two subsections. The first reviews literature on environmental uncertainty and the second, examines the literature on how to assess whether a company's strategy planning process is strong or weak in managing uncertainties in the environment. These two subsections are further synthesised in a separate chapter (Literature Synthesis Chapter) as the basis for developing propositions needed to support the research question, the research aim and objectives so that the appropriate research methodology is designed for data collection and analysis.

1.2.1. Environmental Uncertainty

This subsection attempts to answer the question: Why is the analysis of the environment important to a decision unit in an organisation?

For example, the credit crunch in 2008 affected businesses and organisations throughout the world, and therefore, became the number one global problem. The effect was that, multinational companies such as General Motors and the insurance giant AIG had to lay off employees due to liquidity problems. This credit crunch created unprecedented employment problems resulting in a global recession. To prevent the global recession from getting out of control, heads of the twenty world major economies met in Washington DC (USA) in the latter part of 2008, and again at a second meeting in London (UK) in the early part of 2009 to find solutions to stimulate world economic growth.

The credit crunch experienced in 2008 tells us how volatile the business environment can be and the implications on organisations that are not able to adapt quickly to such uncertainties.

According to Thompson (1967, page159):

“Uncertainty appears as the fundamental problem for complex organisations.”

Herbert and Deresk (1987, page135) in their contribution to the importance of managing uncertainties in an organisation argue:

“Organisational effectiveness depends on the ability of the organisation to adapt to its environment, which in turn is influenced primarily by the strategic management of the organisation.” .

Various arguments have been advanced to explain the causes of uncertainties in organisations.

According to Duncan (1972) and Milliken (1987) uncertainty in organisations is due to the lack of adequate information regarding the environmental factors associated with a given decision-making situation.

However, Pfeffer and Salancik (1978) argue that the extent of power and authority that a decision unit in an organisation possess determine the level of environmental uncertainty faced by that organisation, and not the lack of adequate knowledge.

It is important in this study to show the difference between uncertainty and risk as some people use these words interchangeably, and therefore, give a different meaning to the application of the uncertainty concept.

For a better understanding of the relationship between risk and uncertainty, Knight (1921) came out with a set of distinctions around probabilities and distributions of events. Thus, uncertainty is a subjective probability and a situation in which the distribution of events is unknown. However, risk is an objective probability and a situation with known distribution of events.

This study specifically examines the uncertainty concept in relation to an organisation's environment, and not risk. The critical literature will investigate various definitions on environmental uncertainty and explain how the concept affects business organisations.

From the literature review, researchers such as Duncan (1972), Emery and Trist (1965), and Thompson (1967) suggest frameworks that assist in classifying an organisation's environment as either certain or uncertain. These frameworks help to determine the level of uncertainty at any particular time either as simple or as complex and either as static or as dynamic.

The framework suggested by Duncan (1972) concludes that:

- In the simple-static environment, there are few external elements in the environment and these elements are stable. Managers perceive such an environment as low uncertainty.
- In the complex-static environment, there are a large number of external environmental elements which decision units must consider.

However, these external environmental elements are relatively static, making them easy to predict by decision units. Managers perceive such an environment as moderately low uncertainty.

- In the simple-dynamic environment, there are few external elements in the environment. However, these external environmental elements are unstable and change frequently. This situation makes it difficult for decision units to predict the behaviour of these few external elements. Managers perceive such an environment as moderately high uncertainty.
- In the complex-dynamic environment, there are a large number of external environmental elements and these large external environmental elements are unstable and change frequently. In this particular external environment, decision units not only find it complex to manage but also difficult to predict the behaviour of these large number of external environmental elements. Managers perceive such an environment as highly uncertain.

The critical literature review concludes that decision units that match their organisations' strategies to changes in the environment achieve a superior competitive position.

This argument has received support in strategic management literature (Porter, 1980; Papadakis et al. 1998; Bourgeois, 1985; Miles and Snow, 1978; White, 1986; Slater and Olson, 2000).

The next subsection reviews the literature on how organisations match their strategies to the changes in the environment.

1.2.2. Business-Level Strategies

Every organisation is set up for a purpose, either to make a profit for its owners (for example, Coca Cola Company Ghana Ltd) or to provide social services to the community (for example, The Regional Hospital in Accra, Ghana). However, the lack of adequate knowledge regarding movements in

the environment creates uncertainties (Duncan, 1972; Bourgeois, 1985; Milliken, 1987). Surmounting environmental uncertainty to achieve the purposes for which these organisations are set up is a major problem.

The question then is: how can an organisation achieve its objectives in spite of uncertainties in the environment?

As an answer to the question posed, Reger et al. (1992, page190) in their study of deregulation, strategic choice, risk and financial performance argue:

“The field of strategic management rests on the premise that managers match their firm’s strategies to that of the characteristics of their environments, and that a firm achieving superior matches will enjoy superior competitive positions and higher levels of performance.”

Papadakis et al. (1998, page116) argue in support of effective management of organisations and suggest:

“Strategic decisions are among the main means through which management choice is actually effected.”

From these arguments, one may to conclude that by making the right strategic choice, a decision unit can manage the uncertainties in the environment.

One principal objective of this study is to ascertain how organisations strategically respond to uncertainties in the environment.

To achieve this objective, the literature review first examines the processes that should be adopted to achieve a comprehensive long-term planning process which is a prerequisite in formulating and implementing strategic issues in organisations. In addition, the literature review examines the strategy options available to an organisation as a basis make a strategic choice.

From the critical literature review, most researchers agree that the application of a long-term planning process in an organisation will facilitate the development and implementation of strategy issues that will match the characteristics of the environment.

However, studies by Schendel (1974), Lindsey and Rue (1980), Armstrong (1982), Boyd and Reuning-Elliott (1998), Grant (2003), Scott (2007) suggest different stages of achieving a comprehensive long-term planning process in an organisation.

Lindsey and Rue (1980, page 386) argue that certain requirements for attaining a comprehensive long-term planning process in an organisation must exist. According to Lindsey and Rue (1980) a comprehensive long-term plan process should:

- “1. Be applicable to most, if not all, segments of the business.
2. Contain objectives or goals
3. Contain the methods, procedures, and means for realizing and implementing the goals and objectives.
4. Contain some procedures for auditing and controlling the plan.”

From the above requirements, Lindsey and Rue (1980) suggest three classes of planning completeness. These classifications are:

- Class 1 firms basically do not engage in any long-term planning,
- Class 2 firms do engage in some long-term planning, and
- Class 3 firms do have a reasonably sophisticated long-term planning process.

They conclude that planning completeness is actually a continuum ranging from no planning to a very comprehensive process and suggest that by examining an organisation's long-term planning process on the different

levels of the continuum one can determine whether the organisation's long-term planning process is comprehensive or limited.

The critical literature review identifies two generic strategies in any organisation.

(Scott, 2007, page 7/7) describes generic strategies as:

“Generic strategies are therefore associated with broad classifications of strategy; in military terms this would involve being an aggressor or defender, or perhaps being neutral.”

Literature review classifies generic strategies into corporate-level and business-level strategies (Herbert and Deresky, 1987; Scott, 2007). This study defines corporate-level strategy as the strategy that specifies the future of an organisation's business so that resources can be mobilised and deployed in that direction and business-level strategy as the strategy that a firm selects to enable it compete effectively in a particular industry or a product market.

Based on the objectives of this study, the critical literature review examines business-level strategies in organisations to investigate the strategic behaviour of a case study company in Ghana.

Researchers such as Wissema et al. (1980), Vesper (1979), Herbert and Deresky (1987), Boston Consulting Group (1968), Miles and Snow (1978), and Porter (1980) suggest different types of business-level strategies available to an organisation within an industry or a product market. However, the studies carried out by Porter (1980) and Miles and Snow (1978) on business-level strategies have attracted numerous empirical studies in spite of their limitations. Segev (1989) carried out a comparison between Porter's and Miles and Snow's business-level strategies and concludes that Porter's business-level strategy unlike Miles and Snow's typology, is not a suitable construct if the objective of a research is to investigate how organisations strategically behave to adapt to the

characteristics of the environment within a given industry. The study carried out by Desarbo et al. (2005) offers further support for the universal application of Miles and Snow (1978) business-level strategies in different organisations.

Miles and Snow (2003, page 21) studied the “adaptive cycle” of an organisation and argue:

“The effectiveness of organisational adaptation hinges on the dominant coalition’s perceptions of environmental conditions and the decisions it makes concerning how the organisation will cope with these conditions.”

Miles and Snow (1978) suggest three business-level strategies (defender, analyzer and prospector) and describe how these strategies adapted to the changes in the environment. According to Miles and Snow, their study was based on the previous studies carried out by organisational theorists such as Chandler (1962), Thompson (1967), Weick (1969), and Child (1972).

In summary, the literature review on strategy first examines how to assess whether an organisation’s long-term planning process is comprehensive or limited and secondly examines the strategy options available to an organisation to select in order to be competitive in a particular market.

1.3. THE RESEARCH QUESTION, RESEARCH AIM AND OBJECTIVES

To be able to address the research gap identified on page 1, the research question that guides this study is:

What is the state of the business environment in the telecommunications sector in Ghana and the business strategy adapted by organisations in response to the characteristics of the environment?

The main aim of this research is to investigate the state of the business environment in the telecommunications sector in Ghana and the business –

level strategy adapted by organisations in response to the characteristics of the environment. Whilst pursuing the aim of carrying out this research, the following objectives will be achieved:

- To identify the most influential environmental factors in the telecommunications sector in Ghana.
- To investigate how the different levels of environmental uncertainties are classified in order to determine the state of the business environment in the telecommunications sector in Ghana.
- To examine the level of the application of the long-term planning process in a case study company.
- To investigate the types of business-level strategies available to an organisation to select in response to the characteristics of the environment in the telecommunications sector in Ghana.

1.4. THE RESEARCH METHODOLOGY

The study adopts the phenomenology research strategy (defined in Chapter 5, page 80) to investigate the relationship between strategy and environmental uncertainty in the telecommunications sector in Ghana.

Ghana has only six licensed network service providers. The size of this population makes the use of advanced probability techniques inadequate. The study therefore uses a purposive sample technique (described in Chapter 5, page 87) to select a company as the case study (defined in Chapter 5, page 84) in the telecommunications industry in Ghana. In spite of the advantages of case studies as a research method (Yin, 2003) some researchers challenge the method as unscientific and, therefore, difficult to generalise findings emanating from them (Saunders et al. 2009).

The telecommunications sector in Ghana is selected for an in-depth case study, because the sector has since 1997 experienced different levels of

deregulation, privatisation and liberalisation, making it one of the most competitive markets in sub-Saharan Africa. Secondly, this sector is said to be one of the success stories of privatisation in Africa. A company from the sector therefore offers a good case to examine the relationship between environmental uncertainty and strategy in a developing country.

The study applies a qualitative research methodology (discussed in Chapter 5, page 82) using a semi-structured questionnaire to interview twenty two (22) management personnel from the case study company. In addition, published records such as the company's annual report, strategic plans and financial records are examined to triangulate the data collected on the company's long-term planning process.

1.5. THE SIGNIFICANCE OF THE STUDY

The literature review observes that the large body of knowledge on strategy-environment relationships is concentrated mainly in Western countries with developed economies. For the first time, this study contributes to the literature on strategic management by exploring the relationship between business-level strategy and the state of the telecommunications business environment in Ghana.

1.6. THE OUTLINE OF THE STUDY

Chapter 1 introduces the study and examines the theoretical background supporting the study. The chapter further discusses how data will be collected and analysed and states the significance of carrying out the study. Chapter 2 is the first of the three chapters on the critical literature review. It reviews literature on environmental uncertainty by first identifying factors in the business environment that cause uncertainties for decision units in organisations. Secondly, it defines the uncertainty concept and establishes the distinction between uncertainty and risk. Lastly, the chapter examines the theoretical framework that helps a decision unit to determine whether at

a particular time the environment can be described as either uncertain or certain.

Chapter 3 reviews literature on the processes a decision unit goes through to make the appropriate strategic choice in response to environmental uncertainties.

Chapter 4 synthesises the first and second chapters on the literature review and develops the propositions required to guide the design of the research methodology in chapter 5.

Chapter 5 describes in detail the research paradigm selected to achieve the aim of the study and discusses the advantages and disadvantages of using a case study as a method for collecting data in research studies. The chapter further discusses the research ethics adopted to collect data and the reliability as well as the validity of the data collected.

Chapter 6 covers the detailed data collection and analysis procedures applied to achieve the aim of the study.

Chapter 7 validates the results of the single case study using a larger sample from sub-Saharan Africa to reduce the limitations of conducting a case study.

Chapter 8 concludes the thesis by discussing the findings, the contribution of this research to the knowledge base, the limitations of the study, the implications of the study, and suggests areas identified during the study that need further research attention.

CHAPTER 2

LITERATURE REVIEW I

ENVIRONMENTAL UNCERTAINTIES

2.1. INTRODUCTION

In the introductory chapter, the literature review established that the study of the relationship between strategy and environmental has been concentrated mainly on western economies and as a result, the problem of excluding developing countries from strategic „fit’ research has still not yet been resolved (Kim and Lim,1988; Lukas et al.,2001; Gao, Zhou & Yim, 2006).

To close this gap in the literature, this study examines the relationship between business strategy and environmental in the telecommunications sector in Ghana.

In furtherance of the above aim, the first chapter on the critical literature review examines the following areas:

- An organisation’s Environment
- The Uncertainty Concept
- Determining the levels of Uncertainty in Organisations
- Conclusion

2.2. AN ORGANISATION'S ENVIRONMENT

The Oxford Advanced Learner's Dictionary (7th edition, 2006) defines the environment as:

“The conditions that affect the behaviour and development of somebody/something”

Critically examining the above definition, one may describe the environment as including elements such as natural resources, skills and technology which make a person /company to be successful or disadvantaged as a result of utilising or failing to utilise the elements(the natural resources, and or skills, and or technology) at its disposal.

However, this study only limits itself to the aspects of the environment that affects strategic decisions in organisations.

From the critical literature review, researchers have defined an organisation's environment based on the way they perceived the environment.

For example, Duncan (1972, page314) in his study of the characteristics of the organisational environment defines the environment as:

“The totality of physical and social factors that are taken directly into consideration in the decision-making behaviour of individuals in the organisation”

A critical review of Duncan's definition shows similarity to the definition offered by the Oxford Advanced Learner's Dictionary but with emphasis on the factors in the environment that affect decisions-making behaviour of individuals in organisations.

Pennings (1975, pages 393) defines an organisation's environment as:

“Environment is the organisation's source of inputs and sinks of outputs; that is, the sets of persons, groups, and organisations with which the focal organisation has exchange relations.”

Pennings' (1975) definition describes an organisation's environment as the main provider of inputs that enables exchange relationships to create the output of that organisation.

Daft (2004, page136) defines an organisation's environment as:

“All elements that exist outside the boundary of the organisation and have the potential to affect all or part of the organisation”

Downey and Slocum (1975, page 572) describe an organisation's environment as:

“The environment does provide a basic input into the individual's mapping processes. Additionally, the environment is seen as a moderator of sources of perceived uncertainty variability. Consequently, an explicit formulation of environment is necessary. This formulation, however, must be free from either perceptual or man-environment relations oriented concepts.”

A critical analysis of the above definitions shows that each researcher sees the organisation's environment as comprising factors which have an interaction with the organisation. However, Duncan's (1972) definition emphasises how these factors affect the effectiveness of corporate decisions.

A critical analysis of Pennings' (1975) definition shows that it fails to make any distinction between the factors inside the organisation and, therefore, under the control of decision units and factors outside the organisation and, therefore, beyond the control of decision units. However, Pennings (1975) definition stresses how technology affects an organisation's environment, thus providing a different dimension to the uncertainty concept. The

definition given by Daft (2004) indicates that it is the external elements which are not directly controlled by decision units that stimulate uncertainties in organisations.

In spite of the differences in the definitions, it is observed that most researchers agree that it is the external elements in the environment that affect strategic decisions and therefore need the attention of decision units.

Granted that all the definitions see the business environment as being controlled by factors outside the control of the organisation, then the question is; what are the factors in the environment that affect an organisation's effectiveness and therefore need the attention of decision units?

Dill (1958) in his study of the environment as an influence on managerial autonomy classifies the environment to make it easy for analysis. According to Dill, the task environment has the greatest impact on the goal attainment of any organisation. He identifies the customer, the supplier, the competitor, and regulatory groups as elements in the task environment.

Daft (2004) based on the work of Dill (1958) classifies the external environment into a task environment and a general environment.

Daft (2004, p136) describes the task environment as: "Includes sectors with which the organisation interacts directly and that have a direct impact on the organisation's ability to achieve its goals."

Daft's (2004) description of the task environment is similar to that of Dill's (1958) as they both stress that the task environment has the greatest impact on the goal attainment of organisations.

Daft (2004) identifies the customer, the supplier, the competitor, regulatory groups, international and human resources as the factors that form the task environment.

Daft (2004, page 138) describes the general environment as: “includes those sectors that might not have a direct impact on the daily operations of a firm but will indirectly influence it,” and identifies socio-culture, the economy, technology and financial resources as sectors in the general environment.

Duncan (1972) examined twenty-two decision units in three manufacturing organisations and in three research and development sectors, and classifies an organisation’s environment into internal and external environments. Duncan identifies organisational personnel, organisational function and staff units as components of the internal environment and the customer, the supplier, the competitor, socio-political and technology as components of the external environment.

However, a critical analysis of Duncan’s (1972) study shows that these factors may be relevant to only manufacturing organisations and not in all cases relevant to specialised organisations such as scientific institutions, public services or defence organisations which are in a less competitive environment. Its general usage must therefore be done with caution.

Although there are differences in the list of factors in the environment identified by these researchers, Duncan’s (1972) classification of the external environment may be compared to Daft’s (2004) and Dill’s (1958) descriptions of the task environment and the general environment.

Critically analysing Pennings’ (1975) definition on page 16, if his classification of internal operations is referred to as internal environmental factors, and beyond the control of the organisation as external environmental factors, then this study interprets Pennings’ classification to be similar in meaning to Duncan’s (1972) classification of both the internal and external components of the environment.

A recent Harvard Business Review article entitled “The Hidden Risks in Emerging Markets” by Henisz and Zelner (2010) emphasises regulatory

environment in emerging markets as the biggest risk factor now faced by foreign investors.

Henisz and Zelner (2010) argue:

“Historically, the biggest risks faced by foreign investors were in developing countries with immature or volatile political systems...Today, this risk has largely disappeared. Stronger international law and symbiotic nature of growth in emerging and developed economies reduced asset seizures to nearly zero during the 1980s. However, as interest in emerging markets has soared, host countries have learned ...that more value can be extracted from foreign enterprises through the more subtle instrument of regulatory control rather than outright seizures.”

From the critical literature review, this study identifies customer behaviour, suppliers of credit and materials, competitors actions, socio-cultural behaviour, the state of the economy, technological changes in the sector, the international business position of the country, regulatory environment that governs the industry as factors in the external environment which when stimulated cause uncertainty in the environment.

After examining the various definitions and the arguments on an organisation's environment this study defines an organisation's environment as:

The totality of physical and social factors in the environment which are beyond the control of a decision unit in an organisation, but which must be considered as contingencies and constraints in the decision making process of that organisation.

This definition therefore places more emphasis on the factors in the external environment which are beyond the control of organisations, but when stimulated affect the strategic decisions of management (Duncan, 1972;

Dill, 1958; Thompson, 1967; Bourgeois, 1980; Grant, 1998; Thorelli, 1967).

Due to the differences in the definition of an organisation's environment, different schools of thought have emerged to describe how an organisation's environment should be conceptualised.

For example, the industry structure perspective describes the environment as a pattern of competitive forces (Porter, 1980; Schmalensee, 1985; Rumelt, 1991).

Mauri and Michaels (1998, page 213) argue:

“Industry organisation researchers have argued that strategy and performance are primarily determined by the membership of an industry, and are sustained through entry barriers. In this perspective, the common structural elements of industry leads its members to share competitive characteristics.”

The organizational field perspective suggests that the knowledge of the environment is acquired by designing organisational structures and decision processes to match prevailing environmental contingencies (Burns and Stalker, 1961; Thompson, 1967; Bourgeois, 1980). For example, Burns and Stalker (1961) after carrying out numerous interviews with respondents in electronics firms postulated that there are two „types’ of management. The first type is the „mechanistic.’ This type of management is suitable for a firm operating in a stable condition with a strong specialised hierarchy and operates with vertical lines of communication and cannot quickly adapt itself to rapid technical changes. The second type „organic’ has a far less formal structure and is prone to a constant redefinition of roles. It operates with a strong lateral communications network.

Lewin et al (1999, page 535) comment on the organizational field perspective and suggest:

“The theory considers organisations, their populations, and their environments as the interdependent outcome of managerial actions, institutional influences, and extra-institutional changes (technological, socio-political, and other environmental phenomena).”

The population-ecology perspective focuses on the resources available to the population and the effect on organisations (Hannan and Freeman, 1977; Marple, 1982).

Daft (2004, page 183) investigates the population-ecology perspective and argues:

“According to the population ecology view, when looking at an organisational population as a whole, the changing environment determines which organisations survive or fail. The assumption is that individual organisations suffer from structural inertia and find it difficult to adapt to environmental changes. Thus when rapid change occurs, old organisations are likely to decline or to fail, and new organisations emerge that are better suited to the needs of the environment.”

The resource dependence perspective describes the environment as a system of resources and interconnected organisations (Pfeffer and Salancik, 1978; Aldrich, 1979).

Hart (1995, page 988) in support of the resource dependence perspective argues:

“It posits that competitive advantage can be sustained only if the capabilities creating the advantage are supported by resources that are not easily duplicated by competitors.”

The information uncertainty perspective suggests that it is the lack of adequate knowledge regarding factors in the environment that affects management decisions (Duncan, 1972; Hitt et al., 1982; Milliken, 1987).

Duncan (1972, page 318) defended this perspective and argues that it is the lack of information regarding the environmental factors associated with a given decision-making situation that creates uncertainty

However, a critical analysis of the various schools of thought shows similarities between the industry structure, the population ecology, and the resource dependency perspectives. For example, the industry structure perspective stresses that organisations compete for resources among themselves and within the industry as well as with other industries in the economy in the same environment in order to gain a competitive advantage to survive. Similarly, the population ecology school of thought focuses on the scarce resources available to the population and the effect on organisations. This school of thought argues that organisational population change in numbers and characteristics. Thus, the resources and other elements in the environment also change and survival is based on the organisation that is capable of controlling the scarce resources to match its population.

However, Lenz and Engledow (1986, pages 339) in their examination of the relevant environmental perspectives and alternative models for environmental analysis argue:

“The organisational field model, in contrast, has a more limited empirical base and fewer heuristics for forecasting the competitive implications of actions by other formal organizations.”

Lenz and Engledow (1986) argue that the organisational field model has received less support due to its weakness in analysing the competitive behaviour of other formal organisations.

Priem and Butler (2001, page 36) in their contribution to the application of the resource base view in organisations argue:

“The resource base view does not presently appear to meet the empirical content criterion required of theoretical systems... A concern, however, is

that the elemental strategy concept of „value’ remains outside the resource base view.”

In analysing the arguments made by Priem and Butler (2001), the resource base view is still seen as a new theory and, therefore, yet to be universally accepted as the basis to analyse the environment.

In the case of the information uncertainty perspective, Sutcliffe and Huber (1998, page794) suggest two opposing schools of thought and argue:

“Some scholars argue that executives in different organisations perceive the same environment differently, due to differences among their organisation’s structures and processes...In contrast, other scholars argue that a variety of social processes induce common perceptions within and among subpopulations of organisations inhabiting the same environment.”

The observation made by Sutcliffe and Huber (1998) shows how researchers differ in accepting the information uncertainty perspective as the basis to examine the environment.

In spite of the strong views argued against the application of the information uncertainty perspective, it has received more attention and, therefore, is a subject of more empirical studies than any of the other perspectives on environmental uncertainty.

Those who argue in favour of the information uncertainty perspective (Miles and Snow, 1978; Hitt et al., 1982; Milliken, 1987; Duncan, 1972) emphasise that it is the lack of adequate knowledge about the environment which is the main problem facing decision units in organisations.

Hitt et al. (1982, page270) provide a strong support for the information uncertainty perspective and argue:

“The recognisable pattern of organisational responses to environmental conditions is determined not so much by objective characteristics of the

organisation-environment interactions as by managerial perceptions of the strategic importance of the critical areas contained within different organisational functions.”

Furthermore, Sutcliffe and Huber (1998) found strong evidence and conclude that the perception of the environment exists within top management teams.

After having defined an organisation’s environment and identified factors in the external environment that affect the strategic decision making in an organisation, the next section of this chapter critically reviews the literature on environmental uncertainty.

2.3. THE UNCERTAINTY CONCEPT

Section 2.2. on page 19 of this chapter identified eight external environmental factors, which when stimulated cause uncertainties.

This section specifically examines how researchers define the uncertainty concept in relation to an organisation’s environment.

Organisational theorists such as Duncan (1972), Milliken (1987) and others argue that the definition of the uncertainty concept in relation to an organisation’s environment has still not yet been resolved.

A critical review of the literature shows that several studies on environmental uncertainty define the concept based on the way the writer perceives an organisation’s environment as being stimulated either by the population or by the industry or by resources etc.

For example, Miller (1993, page 694) describes environmental uncertainty as:

“The unpredictability of environmental variables that have an impact on corporate decisions”

Miller (1993) therefore attributes the causes of uncertainty to not being able to predict accurately the variables in the environment due to the lack of knowledge about those variables.

Duncan (1972, page 318) defines uncertainty as:

“(1) The lack of information regarding the environmental factors associated with a given decision-making situation, (2) not knowing the outcome of a specific decision in terms of how much the organisation would lose if the decision were incorrect, and (3) inability to assign probability with any degree of confidence with regard to how environmental factors are going to affect the success or failure of the decision unit in performing its function.”

Duncan (1972) explains that his first two definitions focused more on the general lack of information required for decision-making.

Pfeffer and Salancik (1978, page 68) describe uncertainty as:

“ The elemental structural characteristics of environments are concentration, the extent to which power and authority in the environment are widely dispersed; munificence, or the availability or scarcity of critical resources; and interconnectedness, the number and pattern of linkages, or connections, among organizations. These structural characteristics, in turn, determine the relationships among social actors, specifically, the degree of conflict and interdependence present in the social system. Conflict and interdependence, in turn, determine the uncertainty the organisation confronts.”

Pfeffer and Salancik's (1978) study gives a different dimension to the definition of uncertainty. They argue that the extent of power and authority that a decision unit in an organisation possess determine the level of environmental uncertainty in the organisation and not the lack of adequate knowledge.

Milliken (1987, page136) defines uncertainty as:

“An individual’s perceived inability to predict something accurately. An individual experiences uncertainty because he/she perceives himself/herself to be lacking sufficient information to predict accurately or because he/she feels unable to discriminate between relevant data and irrelevant data.”

A critical study of Milliken’s (1987) definition shows that the emphasis is on lack of adequate information by the individual in the organisation and not by a group in the organisation.

However, others hold quite a different view on how environmental uncertainty is created in organisations.

For example, Kay and Diamantopoulos (1987, page122) in their contribution to the definition of the concept argue:

“Although the discussion of ‘uncertainty environments’ are common in literature, it is important to stress that, strictly speaking, it is not the environment itself that is uncertain, but rather it is the firm that is uncertain about its environment; in other words, environmental uncertainty refers to the ‘fit’ between the firm and the set of environmental dimensions...”

Also, Jauch and Kraft (1986, page 777) suggest:

“Managers may seek to create environmental uncertainty, rather than adapt it...Such actions, while potentially increasing uncertainty for itself, as well, can be seen as an attempt to improve performance, even at the cost of a reduction in equilibrium for the organisation.”

The above contrasting arguments indicate that some researchers see poor management in organisations as the causes of environmental uncertainty. This argument may be partly true, because if decision units fail to institute the right mechanisms and systems to obtain the right information or resources, decision making then becomes ineffective. However, this study,

after a critical literature review, supports the argument that external factors which are beyond the control of management affect strategic decisions. For example, if a country decides to nationalize an important raw material source and allows only one company to control the supply, this decision affects the cost of production as a monopoly over the supply of a vital input is created.

Critically, Jauch and Kraft's (1986) argument is rather on internal managerial inefficiencies which when neglected could make an organisation less productive.

Milliken's (1987) definition concentrates only on the individual perception and therefore ignores the organisation as an entity where decision making is by a group of persons such as the Board of Directors and not by the Chief Executive who implements the board's decisions.

Downey and Slocum's (1975, page 573) study on the subject throws more light on the reason why writers define the concept differently. They argue:

“ Perceived uncertainty can be expected to vary with (a) perceived characteristics of the environment, (b) individual differences in cognitive processes, (c) individual behavioural responses repertoires, and(d) social expectations for the perception of uncertainty.”

In spite of the fact that the various definitions on uncertainty all fail to agree on a common definition, most researchers seem to have a similar idea about what the uncertainty concept is when referring to strategic decisions in an organisation.

These researchers emphasise that it is the variables in the external environment that cause uncertainties in organisation.

After a critical review of the various definitions on uncertainty, this study defines the concept as:

(a) Where a decision unit in an organisation lacks adequate knowledge on the external environmental factors that affect the quality of the organisation's decision making process, uncertainty is created, and (b) where a decision unit lacks the power to control critical resources in the environment that are required to effectively implement strategic decisions, uncertainty is created.

The justification for this definition is that effective decision making depends on adequate knowledge about the environment, and therefore, where a decision unit lack the necessary information regarding the factors in the external environment its decisions are affected. Similarly, uncertainty is created in an organisation where a decision unit is not able to competitively control critical resources such as labour, technology, materials etc, in the environment.

After examining the theoretical explanations behind various perspectives on environmental uncertainty, the next section discusses how the literature classifies the dimensions of the environment to measure the levels of uncertainty in the environment.

2.4. DETERMINING THE LEVELS OF UNCERTAINTY IN THE ENVIRONMENT

From the literature review, researchers are able to determine the state of the environment by classifying it, as either simple or complex environment, and as either stable or dynamic environment at any particular time (for example, from January 2009 to December 2010).

Duncan's (1972) study is based on earlier studies by Emery and Trist (1965) and Thompson (1967). He argues that there are two main dimensions of environmental uncertainty. These are the simple-complex dimension and the static-dynamic dimension constructs. Duncan (1972, page 315) describes the simple-complex dimension as:

“The simple part of the simple-complex dimension deals with the degree to which factors in the decision unit’s environment are few in number and are similar to one another in that they are located in a few components. The complex phase indicates that the factors in the decision unit’s environment are large in number.”

Duncan (1972, page 316) describes the static-dynamic dimension as:

“The static-dynamic dimension indicates the degree, to which the factors of the decision unit’s internal and external environments remain basically the same over time or are in a continual process of change.”

However, later studies by organisational theorists such as Bourgeois (1985); Milliken (1987); Kreiser and Marino (2002) argue that several other factors should be considered to determine the overall level of uncertainty a firm faces in the environment. In support of this position Dess and Beard (1984) suggest three measurements of environmental uncertainty. These are dynamism, complexity and munificence.

Aragon-Correa and Sharma (2003, page 81) define the third measurement called munificence as: “The degree to which the general business environment can support a sustained rate of organisational growth (Starbuck, 1965) or sales growth (Dess and Beard, 1984).”

From Aragon-Correa and Sharma’s (2003) definition, munificence is the amount of resources available in an environment to support and sustain the growth of an organisation. Going by this definition, where a decision unit has adequate resources at its disposal uncertainty is said to be low, and conversely, where a decision unit lacks the necessary resources to sustain growth uncertainty is said to be high.

Furthermore, Milliken (1987, pages 136) suggests three multidimensional measures of environmental uncertainty. These are state uncertainty, effect uncertainty and response uncertainty. Milliken defines state uncertainty as:

“One does not understand how the components of the environment might be changing;” and effect uncertainty as: “An inability to predict what the nature of the impact of a future state of the environment or environmental change will be on the organisation;” and finally, response uncertainty as: “Lack of knowledge of response options and/or an inability to predict the likely consequences of a response choice.”

According to Milliken (1987) these three types of uncertainty must all be considered in order to determine the overall level of uncertainty present in any particular environment.

Table 2.1.

Environmental State Dimensions and Predicted Perceived Uncertainty Experienced by Decision Units

	Simple	Complex
Stable	Stable-Simple= Low perceived uncertainty <ol style="list-style-type: none"> 1. Small number of factors and components in the environment 2. Factors are somewhat similar to one another 3. Factors and components remain basically the same and are not changing 	Stable-Complex= Moderately low perceived uncertainty <ol style="list-style-type: none"> 1. Large number of factors and components in the environment 2. Factors and components are not similar to one another 3. Factors and components remain basically the same
Dynamic	Simple-Dynamic= Moderately high perceived uncertainty <ol style="list-style-type: none"> 1. Small number of factors and components in the environment 2. Factors are somewhat similar to one another 3. Factors and components in the environment are in continuous process of change 	Stable-Complex= Moderately low perceived uncertainty <ol style="list-style-type: none"> 1. Large number of factors and components in the environment 2. Factors and components are not similar to one another 3. Factors and components in the environment are in continuous process of change

Adapted from R.B. Duncan (1972): characteristics of Organizational Environments and Perceived Environmental Uncertainty; Administrative Science Quarterly vol. 17 (3).
page320

After the critical literature review, this study adopts the theoretical framework (simple-complex and stable-dynamic dimensions) suggested by Duncan (1972) to assess perceived environmental uncertainty in an organisation. Duncan's (1972) theoretical framework on uncertainty has been subjected to several empirical studies for its validity and reliability in measuring uncertainties in organisations (Kourteli, 2005; Bourgeois, 1980; Venkatraman and Prescott, 1990; Tan and Litschert, 1994).

Analysing Duncan's (1972) framework in Table 2.1 on page 31, he combines the simple-complex dimension and the stable-dynamic dimension constructs into a conceptual framework that can assist in determining the level of perceived uncertainty in any business environment.

Duncan's four classifications of perceived environmental uncertainty are:

The Stable-Simple Dimension: According to Duncan (1972) this type of environment has a few external elements, and the elements are stable. Managers perceive such an environment as low uncertainty.

The Stable-Complex Dimension: Duncan (1972) describes this type of environment as where there are a large number of external environmental elements which decision units must consider. However, these external environmental elements are relatively static making them easy to predict by decision units. Managers perceive such an environment as moderately low uncertainty.

The Simple-Dynamic Dimension: Duncan (1972) described this type of environment as having a small number of external elements. However, these external elements are dynamic and change frequently. This situation makes it difficult for decision units to predict the behaviour of these few external elements. Managers perceive such an environment as moderately high uncertainty.

The Complex-Dynamic Dimension: Duncan (1972) described this type of environment as having a large number of external environmental elements, and these large external elements are dynamic and change frequently. In this particular external environment, decision units not only find it complex to manage but also difficult to predict the behaviour of these large numbers of external environment elements. Managers perceive such an environment as highly uncertain.

2.5. CONCLUSION

In summary, chapter 2 reviewed the literature on organisations' environment and identified customer behaviour, suppliers of credit and materials, competitors for customers and materials, regulatory environment in the sector, socio-culture behaviour, international and changes in technology as factors in the external environment that affect the strategic decisions of organisations.

The chapter also reviewed the different definitions on environmental uncertainty and compared the various perspectives used to conceptualise uncertainty in organisation.

The critical literature review examined two main dimensions along which perceived uncertainty can be determined. These are the simple-complex dimension and the stable-dynamic dimension. The simple-complex dimension measured the number of factors that are present in the environment, while the stable-dynamic dimension is concerned primarily with the amount of change in these factors. However, subsequent studies argued that several factors acted together to determine the total amount of uncertainty a firm faced in any given environment. In support of this argument, a multidimensional measurement of uncertainty is suggested by adding munificence to dynamism and complexity developed by earlier writers.

The next chapter reviews the literature on how an organisation's long-term planning process is assessed to determine whether an organisation's long-term planning process is comprehensive or limited to match the level of perceived uncertainty. It also reviews the literature on the various strategy options available to an organisation to make the right strategic choice in a competitive environment.

CHAPTER 3

LITERATURE REVIEW II

STRATEGIC ORIENTATIONS

3.1. INTRODUCTION

The previous chapter defined an organisation's environment and identified that the factors in the external environment cause perceived uncertainty in organisations (Dill, 1958; Thompson, 1967; Duncan, 1972; Bourgeois, 1985; Milliken, 1987; Daft, 2004).

Chapter two further identified two main dimensions along which the environment is measured. These are the simple-complex dimension and the static-dynamic dimension (Duncan 1972).

Researchers such as Kathryn (2006), Boulton et al. (1982), Lindsey and Rue (1980), Javidan (1984) examined the impact of environmental uncertainty on long-range planning and argue that there is a relationship between the application of a comprehensive long-term planning process in an organisation and perceived environmental uncertainty.

This chapter reviews the literature on the application of the long-term planning process in organisations. The chapter also reviews the literature on the various strategic alternatives available to an organisation to make the right strategic choice to manage uncertainties in the environment.

The chapter is organised into the following sections:

- 3.2. The definition of business strategy.
- 3.3. Business strategy-environmental uncertainty relationship.
- 3.4. Assessing an organisation's long-term planning process.
- 3.5. Making choices among strategies.
- 3.6. Conclusion.

3.2. THE DEFINITION OF BUSINESS STRATEGY

The Oxford Advanced Learner's Dictionary (6th Edition, 2007, page 1461) defines strategy as:

“A plan that is intended to achieve a particular purpose”

The dictionary definition simply describes strategy as any plan, for example, a plan to go on holidays abroad. When the holiday is undertaken, a strategy is achieved.

However, strategy in the business sense is more than a mere plan. Porter (1996) describes the concept as competitive strategy and that operational effectiveness is not strategy.

From the literature review, the word strategy was first used in the military circles for centuries, but as a business concept it was first defined by Chandler (1962, Page13) as:

“The determination of the basic long- term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals”

Chandler (1962) describes strategy as the basis of determining the long-term goals of an organisation. This definition is criticised by this study on the grounds that strategy means more than just setting long-term objectives. This is because the critical literature review has established that an organisation's main objective of having a strategy is to gain a competitive advantage over its rivals and this need to be emphasised when defining the concept.

Grant (1998, page14) defines strategy as:

“The overall plan for deploying resources to establish a favourable position”

The critical literature review shows that Grant (1998) describes strategy as just a plan that helps to determine resources to achieve a favourable position. His definition is therefore silent on how to make the plan work effectively and how to sustain the plan over a long period of time.

Johnson and Scholes (1999, page5) defines strategy as:

“The matching of activities of an organisation to the environment in which it operates”

Johnson and Scholes’ (1999) description of strategy as matching the activities of an organisation to the environment tells us how important an organisation needs strategy to manage uncertainties in the environment. However, this definition is also silent on how strategy should be implemented successfully and how to sustain the strategy over a long period of time.

De Wit and Meyer (2004, page 590) define strategy as:

“A course of action for achieving an organisation’s purpose”

The definition provided by De Wit and Meyer (2004) is similar to the definition of Grant (1999) and therefore inherits the shortcomings identified in Grant’s definition.

Mintzberg and Quinn (1996, page3) define strategy as:

“The pattern or plan that integrates an organisation’s major goals, policies, actions...into a cohesive whole”

The definition of strategy by Mintzberg and Quinn (1996) is criticised by this study because it also fails to consider how a company should be competitive on the market.

Porter (1996, page 64), in his article, “What is strategy?” describes strategy as:

“Choosing to perform activities differently than rivals do...”

The definition provided by Porter shows a different meaning of what business strategy means. From Porter’s definition, strategy is doing something differently to attract customers better than competitors. However, this definition also fails to tell us whether performing the activities is for a short-term or for a long-term.

Clearly, the above definitions show that each author is looking at the word ‘strategy’ from a different perspective.

De Wit and Meyer (2004, page 3) sum up this observation as follows:

“There are strongly differing opinions on most of the key issues and the disagreements run so deep that even a common definition of the term strategy is illusive.”

After critically analysing the different definitions, the working definition of strategy for this study is:

The determination of the mission of an organisation and the selection of management actions that direct the allocation of the organisation’s scarce resources in the most efficient manner, based on perceived uncertainties in the environment with the objective of making the firm unique and different from its competitors for a long period of time.

The study therefore describes strategy as follows:

- First, as the basis of determining where the organisation wants to go.
- Secondly, as a means of ensuring that management takes the right actions to overcome the challenges in the environment to get to where the organisation wants to go.

- Lastly, for a strategy to be effective, it must be capable of preserving the organisation's uniqueness for a very long time.

3.3. BUSINESS STRATEGY-ENVIRONMENTAL UNCERTAINTY RELATIONSHIP

From the critical literature review, the application of a comprehensive long-term planning ensures the effective implementation of strategic issues that matches the characteristics of the environment (Scott, 2007; Grant, 2003; Armstrong, 1982; Lindsey and Rue, 1980; Hopkins and Hopkins, 1997; Wood and LaForge, 1979).

Wood and LaForge (1979, page 524) in assessing the impact of strategic planning on performance using a sample of fifty largest banks in ten states in the US (data from Moody's Banks Financial Manual) argue:

"In this study, a group of large US banks that engaged in comprehensive long-range planning financially outperformed two other groupings of large US banks that were either randomly selected or were identified as not having a formal planning system."

Wood and LaForge's (1979) findings support the argument that large banks that apply a comprehensive long-term planning process perform better than their counterparts who do not.

Lindsey and Rue (1980, page 402) after examining the impact of environmental characteristics on the long-range planning process in 390 firms in USA and Canada conclude:

"The evidence obtained from this exploratory study suggests that large business firms in a variety of industries are attempting to „fit' their long-range planning processes to their perceived environmental conditions, that a number of the strategies used to achieve this fit are in line with concepts developed by organisational theorists, and that small firms should be considered as a separate class in this and future related studies."

The argument by Lindsey and Rue (1980) supports the study carried out by Wood and LaForge (1979) that large organisations that apply all the areas emphasised on the long-term planning construct are able to manage environmental uncertainties and therefore perform better.

Armstrong (1982, page 209) after reviewing the empirical studies on the importance of a comprehensive long-term planning for strategic decisions and suggests:

“Research from organisational behaviour has been valuable in studying which aspects of planning are useful. Particularly useful were explicit objective setting and monitoring results...Comparison between organisations that use formal planning versus those that use informal planning found performance among formal planners to be superior in ten cases and poorer in only two cases, with three ties.”

Armstrong's (1982) findings support the importance of a comprehensive long-term planning process as the basis to set objectives so that effective monitoring of performance can be carried out.

Rhyne (1986, page 432) used a stronger measure of the characteristics of planning effort and company performance to investigate whether firms conforming to strategic management theory outperformed firms which did not. From his study, he argues in support of a comprehensive long-term planning by stating:

“Firms with planning systems more closely resembling strategic management theory were found to exhibit superior long-term financial performance both relative to their industry and in absolute terms. Not only did 10-year total returns to investors increase with planning continuum, but in addition, strategic planning was found to have statistically significant higher returns than other planning categories.”

The findings of Rhyne (1986) are consistent with past research on the relationship between planning and performance and support the argument that organisations that apply a comprehensive long-term planning process are able to match their strategy with the uncertainties in the environment; hence exhibit better performance.

The above findings therefore show that there is a positive relationship between the application of a comprehensive long-term planning process and environmental uncertainty.

However, studies by Boulton, et al (1982), Javidan (1984) and Powell (1992) produce inconsistent conclusions to the assertion that there is a positive relationship between the application of comprehensive long-term planning process and environmental uncertainty.

Boulton et al. (1982, page 508) in examining the relationship among planning activities, environmental characteristics, and perceived environmental uncertainty argue:

“Uncertainty, as a measure in this study, showed only limited impact on the relationship between strategic planning systems and environmental characteristics.”

Boulton et al. (1982) findings indicate that uncertainty has a weak impact on the planning process, and therefore, contrary to the theory that the application of a comprehensive long-term planning tend to match the uncertainties in the environment and thereby improves organisational performance.

Javidan (1984, page389) carried out a longitudinal study in 1976 and later in 1981 to investigated the link between environmental uncertainty and management’s use of long-range planning as a tool in its adaptive role. His study covered organisations with comprehensive and limited planning process. He concludes:

“Both groups felt that the external environment and particularly government policies and economic conditions were much more unpredictable in 1981 than they were in 1976. They also showed similar patterns of organizational goals, singling out growth in profitability and net worth as the two most important goals in 1981. Thus, the „extensive’ and „limited’ planners do not differ in their environmental perceptions. Therefore, the impact of environmental uncertainty on long-range planning seems to be moderated by some other variable(s).”

A critical examination of Javidan’s (1984) research provides a mixed conclusion on the relationship between environmental uncertainty and long-range planning. He concludes that comprehensive and limited planners are both concerned about environmental turbulence, set goals, monitor growth and profitability. Therefore the theory that only comprehensive planners achieve success needs to be further investigated.

However, Grant (2003, page 515) examined the ten biggest oil and gas companies in the world to determine how these organisations’ strategic planning systems have adapted to increased environmental changes, and provides a mixed result as follows:

“Strategic planning continues to play a central role in managing these big companies. At the same time, strategic planning practices have changed substantially over the past two decades in response to challenges in strategic formulation in turbulent and unpredictable environments. Strategic planning processes have become more decentralized, less staff-driven, and more informal, while strategic plans themselves have become shorter-term, more goal-focused, and less specific with regard to actions and resource allocations.”

The findings of Grant (2003) show a limited support for the application of a comprehensive long-term planning process. From his findings, rapid

environmental changes have made planning less formal, shorter and decisions decentralised.

It is observed from the literature review that differences in research findings about the relationship between strategy, environment and performance have led to different perspectives on strategic issues.

Mintzberg (1990, page171) suggests:

“Three are prescriptive in orientation, treating strategy formation as a process of conceptual design, of formal planning, and of analytical positioning...Six other schools deal with specific aspects of the process in a descriptive way, and are labelled the entrepreneurial school (concerned with strategy formation as a visionary process), the cognitive school (a mental process), the learning school (an emergent process), and the environmental school (a passive process). A final school, also descriptive, but integrative and labelled configurational , by seeking to delineate the stages and sequences of the process, helps to place the findings of these other schools in context.”

A critical analysis of these ten different schools of thought rather leads to more complications on the application of strategy as a management tool in organisations and raises more questions, leading to inconclusive answers for practitioners.

In spite of the arguments against the application of a comprehensive long-term planning process, the concept has received much more support than the other schools due to its applicability in organisations. Hopkins and Hopkins (1997, page 646) list the benefits of strategic planning in organisations as follows:

“It generates information, promotes long-range thinking, forces the firm to evaluate its environment, provides a structured means for identifying and evaluating strategic alternatives, stimulates new ideas, increases motivation

and commitment, and reduces focus on operational details, all of which improve performance”.

The next section of this chapter reviews literature on how to assess whether an organisation’s long-term planning process is comprehensive or limited to respond to the challenges in an unpredictable environment.

3.4. ASSESSING AN ORGANISATION’S LONG-TERM PLANNING PROCESS

Several studies have proposed different models for assessing the long-term planning process of an organisation.

Armstrong (1982, pages 198) suggests the following as the stages applicable to strategic planning in organisations:

- Specify Objectives
- Generate strategies
- Evaluate alternative strategies
- Monitor results
- Seek commitment

Schendel (1994, page1) called the stages in the strategic formulation process a „flow process’, and suggests six major stages that need the attention of the strategist. These are:

- Goal formulation,
- Environmental analysis,
- Strategic formulation,
- Strategic evaluation,

- Strategic implementation
- Strategic control.

Scott (2007, page 2/6) suggests five processes that must be followed to successfully implement the strategy in organisations. These stages are:

- Who decides to do what: this covers the role of the strategist and the setting of objectives.
- Analysis and diagnosis: this stage covers the macro environment, the industry environment, internal factors, and competitive position.
- Choice: Covers alternative generic strategies, strategy variations and strategy choice.
- Implementation: This is the last stage of the model and covers the determination of corporate resources and structure, resource allocation and evaluation and control.
- Feedback and monitoring systems are used to evaluate every stage in the process to ensure that the strategy selected is well implemented.

Lindsey and Rue (1980, page 386) argue that different organisations employed the long-term planning process to varying degrees of completeness and suggest that a complete long-term plan should:

- “1. Be applicable to most, if not all segments of the business.
2. Contain objectives or goals,
3. Contain the methods, procedures, and means for realizing and implementing the goals and objectives.
4. Contain some procedures for auditing and controlling the plan.”

Lindsey and Rue (1980) suggest three ordinal classes of planning completeness on a continuum ranging from no planning to a very comprehensive process. The three classes represent the two extremes ends

and the midpoint of the long-term planning continuum. The three classes are:

(I) those firms with plans in Class 1 do basically no formal long-term planning,

(ii) Those firms with plans in Class 2 do engage in some long-term planning, and

(iii) Those firms with plans in Class 3 have a reasonably sophisticated long-term planning process.

Lindsey and Rue (1980) used these three classifications to assess the impact of the environment on long-range planning process in 199 organisations.

Venkatraman and Ramanujam (1987, pages 689) suggest a “planning system success” which according to the researchers is an operational model for measuring planning system success. This model assesses two interrelated dimensions. These are improvements in the capabilities of the planning system and extent of fulfilment of key planning objectives.

Boyd and Reuning-Elliot (1998) in reviewing the measurement issues associated with the strategic planning construct suggest five problems associated with strategic planning construct. These five problems are:

“First, inconsistent measurement schemes have been used to describe and operationalize strategic planning..Second, while planning is most frequently conceptualized as unidimensional, it has also been conceptualized with two, three, and even seven dimensions... Third, studies often collapse interval or ratio level indicators to nominal or ordinal categories. The consequences of this transformation from a finer to cruder level of analysis include the loss of information and statistical power, limiting the ability to effectively test hypotheses. Fourth, most of the prior studies do not report tests of the reliability or validity of their measures. One consequence of low reliability

is attenuation, which may cause researchers to underestimate the „true’ relationship between two theoretical variables (Boyd, 1991 and Venkatraman and Grant, 1986). The last concern with prior studies is parsimony. Since the willingness of executives to participate in research is partially driven by survey length, a planning measure must balance precision vs. parsimony.”

Boyd and Reuning-Elliot (1998) argue that prior approaches to measuring planning have used inconsistent terminology leading to numerous methodological limitations. According to Boyd and Reuning-Elliot (1998) these limitations substantially limit the ability to assess and integrate prior empirical work. They suggest that the desirable characteristics of a planning measure should include:

- Tests for dimensionality,
- Demonstration of reliability and validity, and
- Have a parsimonious number of indicators.

It is apparent from the critical literature review that the long-term planning measurement construct has experienced inconsistency due to the different approaches adopted by researchers.

However, most researchers (Al-Shammari and Hussein, 2007; Robinson Jr and Pearce 11, 1983; Boulton et al., 1982) assessing how effective an organisation’s long-term planning process is, have employed the multi-item instrument used by Lindsey and Rue (1980). In support of this construct as an assessment tool, Al-Shammari and Hussein (2007, page 19) argue:

“This instrument has been widely used in prior literature. This multi-item measure incorporates the multidimensional nature of the strategic planning construct and is generally graded as a valid measure of the construct.”

The next section of this chapter reviews the literature on the various business-level strategies available to an organisation to make the right strategic choice to manage uncertainties in the environment.

3.5. MAKING A STRATEGIC CHOICE

This study defines business strategy as the determination of the mission of an organisation and the selection of management actions that direct the allocation of the organisation's scarce resources in the most efficient manner, based on perceived uncertainties in the environment with the objective of making the firm unique and different from its competitors for a long period of time.

An organisation can achieve uniqueness and appear different from its competitors if it first develops strategy options for consideration, then identifies and selects the appropriate strategy option which maximises shareholders wealth.

Herbert and Deresky (1987, page 135) in their contribution to business strategy argue:

“Strategic management includes making such major choices as which environments in which to compete (corporate-level strategies) and how to compete within those environments (business-level strategies). These choices may either diminish or enhance the probability of specific types of management actions and plans, thereby influencing business performance outcomes.”

Scott (2000, page 7/7) describes strategy options as generic strategies and offers the following explanation:

“Generic strategies are therefore associated with broad classifications of strategy; in military terms this would involve being an aggressor or defender, or perhaps being neutral”

Herbert and Deresky (1987, page 135) describe generic strategy as:
“A broad categorization of strategic choice which would apply generally regardless of industry, organisation type or size.”

Generic strategies may therefore be described as a general classification of strategy options available to all organisations to select no matter the industry in which they operate.

Past studies on strategy classify generic strategy into corporate-level and business-level strategies (Hofer and Schendel, 1978; Herbert and Deresky, 1987; Scott, 2007)

3.5.1. CORPORATE-LEVEL STRATEGY

Corporate-level strategy is defined by Dundas and Richardson (1980, page 178) as:

“Those decisions which define the various product market sectors in which a firm will do business.”

Hofer and Schendel (1978, page 27) define corporate-level strategy as:

“Concerned primarily with answering the question of what set of businesses should we be in. Consequently, scope and resource deployments among businesses are the primary components of corporate strategy.”

Beard and Dess (1981, page 665) describe corporate-level strategy as:

“Corporate-level strategy is defined in terms of variations in the deployment of a firm’s resources among the portfolios of industries within which all business firms compete.”

From these definitions, corporate strategy may be described as the strategy that specifies the future of an organisation’s business so that resources can be mobilised and deployed in that direction.

3.5.2. BUSINESS-LEVEL STRATEGY

The second classification of generic strategy is the business-level strategy.

Scott (2007, page 7/13) explains business-level strategy as:

“The focus here is on the effective exploitation of individual product markets, as opposed to the overall resource allocation problem facing corporate level strategists. This is the responsibility of the SBU, which may have a product portfolio of its own to consider. The generic approaches can be classified according to the strategy adopted towards individual products, or the strategy approach adopted by the SBU towards the exploitation of a group of products.”

From the explanation offered by Scott's, business-level strategy is the actions taken to increase the market share of an individual product or a group of products.

Grant (1998, page19) describes business-level strategy as:

“Concerned with how the firm competes within a particular industry or market.”

Beard and Dess (1981, page 666) define business-level strategy as:

“Variation in a firm's characteristics relevant to competitive success or failure within a given industry”

And Hofer and Schendel (1978, page 27) define business-level strategy as:

“At the business level, strategy focuses on how to compete in a particular industry or product-market segment.”

A critical examination of the definitions shows that they all focus on two main words; these are „competition', and within a „particular industry or product market'. From the above definitions, this study defines business-level strategy as:

The strategy that a firm selects, to enable it compete effectively in a particular industry or a product market.

As stated in Chapter 1, one of the objectives of this study is to identify the business-level strategy in the telecommunications sector in Ghana. This being the case, although corporate-level strategy is helpful in selecting a strategy that defines how the overall resource should be allocated at the corporate level to ensure the future of the organisation's business, this study will concentrate only on business-level strategies. The study of business-level strategies will help to ascertain how an organisation competes effectively in a particular service market (the telecommunications market in Ghana).

From the critical literature review, some researchers use the concept „strategic orientations’ when referring to business-level strategies. However, the definitions offered by researchers such as Gatignon and Xuereb (1997), Voss and Voss (2000) and others show that the application of the concept „strategic orientation’ helps to explain how organisations are likely to behave in different circumstances to implement different business-level strategies to achieve competitive advantage.

For example, Voss and Voss (2000, page 68) define strategic orientation as:

“A multidimensional construct that captures an organization’s relative emphasis in understanding and managing the environmental forces acting on it”

A critical analysis of the Voss and Voss (2000) definition shows that strategic orientation is used here as a business-level strategy that combines more than one construct such as customers, competitors, suppliers and products to provide the firm with a better means of managing environmental uncertainty. Voss and Voss (2000) definition of strategic orientation is therefore how to use these multidimensional constructs to manage environmental forces to gain competitive advantage.

Gatignon and Xuereb (1997, page78) define strategic orientation as:

“A firm’s strategic orientation reflects the strategic direction implemented by a firm to create the proper behaviours for the continuous superior performance of the business.”

A study of Gatignon and Xuereb’s (1997) definition indicates that strategic orientation is the behaviour of a firm to gain superior performance.

Wang (2006, page3) defines strategic orientations as:

“The guiding principles that influence a firm’s behaviour”

Wang’s definition is found to be similar in meaning to the definition given by Gatignon and Xuereb’s (1997).

Based on the analysis of the various definitions, this research defines strategic orientation as:

The specific managerial behaviour required to direct and motivate an organisation to create superior and continuous performance in the industry in which it operates.

From the above definition, an organisation’s strategic orientation may therefore be described as the behaviour that influences its business-level strategy in a given industry to achieve a competitive advantage.

The literature review shows that researchers have developed different business-level strategy options that a firm can select to achieve superior performance within a particular industry or a product market.

For example, Boston Consulting Group (1968) suggests four business-level strategies, these are:

- **Star:** Where the products of the firm are achieving stable growth. The strategy is to invest to improve the current market position. This strategy is good for a business that has

launched a new product on the market and customers are yet to know much about their product.

- Question mark: Where the products of the firm is showing negative growth and the earning low. The strategy is to determine whether the business could grow into a star or degenerate into a dog for a quick decision to be taken.
- Cash cow: Where the business earning is high and stable, cash flow is high and stable. The strategy is to milk the market and continue to provide good customer services to maintain the goodwill achieved.
- Dog: Where the earnings of the business is low and unstable. The strategy is to divest.

Buzzell et al. (1975) suggest three different types of business-level strategies, these are:

- Building: Where the firm makes a high investment to increase its market share position.
- Holding: Where the firm makes investment at market norms to maintain its market share position.
- Harvesting: Where the firm makes low investment allowing its market share to decrease and institute cost control measures to generate cash flow and profitability.

Hofer and Schendel's (1978) business-level strategies primarily emphasise six investment variables depending on the market position, these are:

- Share increasing: This strategy is to make a high investment to increase share of the market.

- Growth: This strategy is selected when the firm aims at maintaining its position in an expanding market. Here investment is made based on industry norms.
- Profit: The objective of this strategy is to make profit by investing at industry norms, and using cost controls measures all aimed at profitability.
- Market concentration and asset reduction: The strategy is the realignment of resources to focus on smaller segments of the market to ensure the sustainability of market share.
- Turnaround: The aim of this strategy is to improve the strategic posture, and this may require heavy investment in terms of research and development.
- Liquidation: This strategy is adopted when the only option left is to sell off useful assets to realise some cash before things get very serious, then give up the business and market position.

Miles and Snow's (1978) suggest four business-level strategies, these are:

- Defenders: The strategy here is to engage in little or no new service or market development. The emphasis here is to attain some level of control and attempt to secure niches within the market. The strategy is primarily on the basis of price, quality, delivery, or service.
- Prospectors: The strategy is to attempt to lead in product or market development. This is achieved by offering frequent changes in the product line and competes primarily by stimulating and meeting new market challenges and opportunities within high investment in research and development.

- **Analysers:** This strategic behaviour is said to be in between defenders and prospectors. The objective is to make fewer and slower products/ market changes than prospectors, and they are also less committed to stability and efficiency than defenders.
- **Reactors:** This strategy is characterised by the absence of consistent strategy behaviour and are usually viewed as unstable and non-viable.

Vesper's (1979) business-level strategies are:

- **Multiplication:** Expansion of market share by multiplying present market structures.
- **Monopolising:** Eliminate competition by establishing barriers to entry, and control of resources.
- **Specialising:** Specialise in products and/or the production process to gain competitive advantage.
- **Liquidation:** Give up business and market position to generate cash.

Wissema et al (1980) suggest the following business-level strategies:

- **Explosion:** The strategy is to improve the competitive position in the short term.
- **Expansion:** The strategy is to improve the competitive position in the long term.
- **Continuous growth:** Maintain position in expanding markets by embarking on normal investment.
- **Slip:** Give up market share to generate cash for a growing market.

- Consolidation: Give up market share to generate cash in a stable market.
- Contraction: Liquidate and sell assets and terminate market position to generate cash.

Porter (1980) suggests three business-level strategies to explain how to achieve competitive advantage in a given industry. These are:

- Cost leadership: The strategy that emphasises low cost competition relative to competitors. Organisations look for operating efficiency, competitive pricing, innovation in manufacturing processes, and product quality control. However, customer service, speciality products and advertising are less important.
- Differentiation: The strategy that emphasises producing something unique and valuable to customers more than simply offering a low price. The basis of this strategy is new product development, brand identification, strong advertising, innovation in marketing techniques and methods, control of distribution channels and good procurement systems.
- Focus: This is the strategy that invests to keep customers, sells by brand identification, serves in special geographic markets, and builds the capacity to manufacture special products which are on high price market segments.

Galbraith and Schendel (1983) suggest six business-level strategies. These are:

- Harvest: This is the strategy of disinvestment.

- **Builder:** This is the strategy for strong commitment to the firm's products. Also a strong commitment to promote and to investment in research and development.
- **Continuity:** The strategy that allows the firm to maintain a relatively stable pattern and thereby experience little or no dramatic change in strategic behaviour.
- **Climber:** This strategy is adopted when the firm first displays narrow product bases, low prices, and inferior quality postures.
- **Niche:** This strategy emphasises high quality products or service characteristics.
- **Cash-out:** This strategy relies on high prices, quality and breadth posture.

Herbert and Deresky (1987) suggest four business-level strategies. These are:

- **Develop:** Firms adopting this strategy are typically new or young businesses with a rapidly changing technology and product line.
- **Stabilise:** Firms using this strategy are in mature companies and stable industries, e.g. retail banking, paper products.
- **Turnaround:** Where the long-term concern of the company is greater than its liquidation value.
- **Harvest:** This is a strategy of disinvestment. The objectives are short-term cash generation to maintain viability through changes in management, budgeting and control systems, product streamlining and disinvestment of unprofitable products or units.

Sharma and Gupta (2007) suggest three business-level strategies. These are:

- Caretaker: The strategy for the caretaker is cost-driven and the focus is to reduce costs.
- Marketers: The strategic focus here is on quality and a wide product range.
- Innovators: The strategic focus is based on production, innovation and extensive research and development.

Critically examining the business-level strategies developed by Hofer and Schendel (1978); Wissema et al (1980); Vesper (1979); and Herbert and Deresky (1987) shows that they all have similar characteristics as the Boston Consulting Group (1968) business-level strategies. These business-level strategies concentrate only on strategic investment decisions in products and or markets and not on how the organisations behave to adapt to the changes in the environment.

In spite of the developments of several business-level strategy options in the literature review, studies by Porter (1980) and Miles and Snow (1978) have attracted much more attention and have therefore been subjected to several empirical studies, all aimed at assessing the reliability and validity of their findings.

From the literature review, these two authors argue their cases from two different perspectives and therefore contribute to the different variations of what organisations should do when confronted with strategic decisions at the business level.

Miller (1988, page 303) in reviewing Porter's business-level strategies in relation to the environment and performance and argues:

“In fact, among successful firms, cost leadership bore a negative relationship to environmental unpredictability and dynamism and a positive

one to the use of formal controls ...Marketing differentiation, a strategy of intermediate complexity and change, related mainly in the successful subsample to environmental unpredictability and dynamism.”

Miller argued in support of Porter’s business-level strategies and concludes that the strategy of cost leadership works best in a stable environment and the differentiation strategy is effective in an unpredictable and dynamic environment.

However, other studies have produced contradictory conclusions.

Murray (1988, pages 397) in his study came out with a different conclusion on Porter’s business-level strategies and argues:

“Cost leadership can only occur if the potential exists to create cost savings in ways other than through cutting back production. How these cost savings can be achieved will depend on the structure of the firm’s industry or the structure of those firms that supply it or its suppliers. ...Similarly, there are a variety of strategic means a firm can use for achieving product differentiation. When a new product class is created, the potential for producing a unique product configuration is greatest, suggesting that a high level of spending on product R&D may be justifiable.”

Murray’s research shows how other researchers see Porter’s generic strategies of cost leadership and differentiation from different perspectives. According to Murray (1988), preconditions such as the availability of raw materials at cheap prices should exist before a firm can choose to pursue cost leadership. Conversely, the potential in the industry to create new products should prevail before a firm can use the differentiation strategy.

Furthermore, Hill (1988, page411) came out with another contradictory conclusion on Porter’s business-level strategy on differentiation and cost leadership. He argues:

“First, a differential can be a way of achieving a low-cost position. Second, because there often is no unique low-cost position, a firm may have to base its sustainable competitive advantage on the simultaneous and continuous pursuit of both low cost and differentiation positions.”

A critical review of Hill’s argument indicates that for a firm to be highly competitive, it must achieve both differentiation and low-cost strategies. This conclusion seems logical as attaining only one strategy gives the firm’s competitors the advantage to retaliate with the opposite strategy. For example, if a firm sells very expensive products, in the long run cheap products will be developed to penetrate the market and capture the market share of that product. But if the firm blends both strategies of partial differentiation and cost consciousness, it can compete in any part of the product market.

Kotha and Vadlamani (1995, page 76) criticised Porter’s business-level strategies by arguing:

“Despite strong empirical support and theoretical refinements, several researchers have criticised Porter’s typology for its conceptual limitations. Researchers have (a) questioned Porter’s assertion that generic strategies are mutually exclusive by arguing that generic strategies are the underlying dimensions of firms’ competitive strategies(Hill,1988;Wright,1987) (b) argued that generic strategies , as discussed by Porter, are not collectively exhaustive, and thus are unable to describe the strategies adequately(Chrisman, et al, 1988; Wright, 1987) (c) questioned the appropriateness of Porter’s simple notions of low cost and differentiation in the current corporate environment characterized by increased global competition and technological change (Mintzberg,1988).Given such concerns, research employing Porter’s typology has slowed down considerably.”

Kotha and Vadlamani's (1995) argue that differentiation and cost-leadership are normal constructs underlying competition and therefore not new; secondly, differentiation and cost-leadership strategies are not the only strategies used in a competitive environment, there are several other strategies that a firm can use to compete; and lastly, the corporate environment is currently characterized by increased global competition and technological change, thus making focusing on costs or differentiation strategies unrealistic. According to these researchers, the above limitations have reduced the interest in further research work using Porter's typology.

. Miles and Snow (1978) in their book „Organisational Strategy, Structure, and Process.' suggest four types of organisational behaviours which represent the alternative ways of moving through the adaptive cycle. The first three are the Defender, the Analyzer, and the Prospector, which, according to the researchers, are „stable' forms of organisations if management chooses to focus on one of these strategies to manage uncertainties in the environment. The fourth type of organisational behaviour is the Reactor, and they argue that the reactor is essentially an „unstable' form of strategic behaviour.

Miles and Snow's (2003, page 21) study is based on the strategic-choice approach (Chandler, 1962; Thompson, 1967; Weick, 1969; and Child 1972). They argue:

“The effectiveness of organisational adaptation hinges on the dominant coalition's perceptions of environmental conditions and the decisions it makes concerning how the organisation will cope with these conditions.”

Miles and Snow (2003, page 47) describe the strategic behaviour of the Defender as:

“Defenders enact an environment of greater stability than do their counterparts within the same industry. Even in industries widely noted for their rapidly changing conditions, there are potential pockets of stability

within which a Defender can thrive. Thus, following the strategic-choice approach, we have argued that the Defender deliberately creates and maintains an environment for which a stable form of organisation is appropriate.”

Furthermore, Miles and Snow (2003, pages 65) describe the strategic behaviour of the Prospector as:

“A Prospector enacts an environment that is more dynamic than those of other types of organizations within the same industry. The Prospector does so by continually modifying its product-market domain to take advantage of perceived opportunities and by emphasizing flexibility in its technology and administrative system in order to facilitate rapid adjustment.”

Furthermore, Miles and Snow (2003, page78) in examining the strategic behaviour of the Analyzer argue:

“We have argued that balance is the common characteristics of the Analyzer’s solution to three problems of organizational adaptation. If it is successful in developing and maintaining this balance, the Analyzer exhibits a different configuration of domain, technology, structure, and process from that of the Defender or the Prospector.”

Finally, Miles and Snow (2003, page93) describe the strategic behaviour of the Reactor as:

“Reactors represent a ‚residual’ type of behaviour in that organizations are forced into this response mode when they are unable to pursue one of the three stable strategies of Defender, Analyzer, or Prospector.”

In summary, Miles and Snow’s (1978) conclude that the Defender firm does best in stable environmental conditions, the Prospector in dynamic environmental conditions and the Analyzer achieves a balance in both stable and dynamic environmental conditions and the Reactor has no strategy.

Researchers such as Desarbo et al. (2005), Zajac and Shortell (1989), Segev (1989), Shortell and Zajac (1990), and Smith et al. (1986) using empirical studies have lent their support to the strategic orientations developed by Miles and Snow (1978).

Zajac and Shortell (1989, page 427) examine Miles and Snow's (1978) typology to find out whether organisations typically change their strategies in response to environmental shifts. They argue:

“(1) Organizations are aware of a need to change strategies in response to environmental shifts (2) Organizations are willing to consider changing strategies in response to environmental shifts (3) Organizations are able to change strategies in response to environmental shifts. Changing strategies appears to be a major tool used by organizations in dealing with their changing environment, as the strategic management perspective would generally suggest.”

An analysis of Zajac and Shortell's (1989) study indicates that organisations change their business-level strategy based on the conditions of the environment. Their findings support the adaptive cycle postulated by Miles and Snow (1978).

Shortell and Zajac (1990, page 825) perform a comprehensive assessment of the reliability and validity of Miles and Snow's (1978) business-level strategies and argue:

“Consistent with the second hypothesis, defenders have the lowest percentage of services in high-growth areas, followed by analyzers and, finally, by prospectors. These findings are consistent for both waves of data collection.”

Furthermore, Segev (1989, pages 492) in his study, compared Porter's and Miles and Snow's business-level strategies and comments:

“Miles and Snow’s typology lends itself better to an evaluation of environmental variables...the results show that the level of Risk and Size of the Strategy-making team cannot be evaluated for Porter’s typology. Though both typologies focus on business-level strategies, Porter placed less emphasis on the behavioural aspects of strategy-making.”

A critical review of Segev’s (1989) findings shows that Porter’s typology unlike Miles and Snow’s typology is not a suitable construct if the objective of a research is to investigate how organisations strategically behave to adapt to the characteristics of the environment within a given industry or product market.

Desarbo et al. (2005, pages 64) revisited the study carried out by Miles and Snow (1978) to determine the interrelationships between strategic types, capabilities, environmental uncertainty and firm performance in three different countries with management and cultural differences. Their concluding remark is:

“We found four strategic groups across the United States, Japan, and China, and determined that the two strategic types that led to highest performance contained firms from all three countries. Thus, we have some evidence that, managers from these three countries ‘think alike’ when reacting to similar capability and environmental settings. These two top-performing groups also resemble classic Miles and Snow groups: Group 2 resembles Defenders, while Group 4 is a combination of Prospectors and Analyzers. We therefore have some preliminary evidence that the Miles and Snow model generalizes across the United States, Japan, and China: managers from top performing firms in those three countries choose strategies not too different from those of the Miles and Snow model.”

The study done by Desarbo et al (2005) supports the validity and the reliability of Miles and Snow’s (1978) strategic orientations in different countries with different cultures. Their conclusions, therefore, provide

further support to Miles and Snow's (1978) business-level strategies as a reliable construct in different settings.

However, other studies after assessing Miles and Snow's (1978) business-level strategies suggest mixed results.

Luo and Park (2001, page152) in assessing the environment-strategy-performance relationship of multinational companies in China, suggest:

“This study suggests that multinational and domestic firms operating in the same market could perceive the environment differently, leading to differences in strategic choices. MNE subsidiaries often face different regulatory constraints from domestic firms and different goals and internal constraints, e.g. global integration and competence dispersal (Brewer, 1993). This potential difference in strategy making and performance between domestic and multinational firms' needs further exploration in future studies”

Critically analysing the conclusions offered by Luo and Park (2001) and Desarbo et al. (2005) one may conclude that they all conducted their studies in China but with two different results. However a detailed analysis of Luo and Park's (2001) study indicates that they concentrated only on multinational enterprises (MNEs), and this gives a new dimension to the limitations of the applicability of Miles and Snow's (1978) business-level strategies in multinational enterprises (MNEs).

However, Snow and Hrebiniak (1980, page318) in reviewing Miles and Snow's (1978) business-level strategies argue:

“Several typologies are available for studying various aspects of organisational behaviour...However, the typology of Miles and Snow (1978) is the only one that
Characterizes an organization as a complete system, especially its strategic orientation”

3.6. CONCLUSION

In summary, this chapter critically reviewed past studies on the application of a comprehensive long-term planning process in organisations and defined business-level strategy.

From literature review, different organisations employ the long-term planning process to varying degrees of completeness, however a comprehensive application of the long-term planning process should be applicable to most, if not all segments of the business; contain objectives or goals; contain the methods and procedures; serve as a means for realizing and implementing the goals and objectives of the business; and contain some procedures for auditing and controlling the plan.

The chapter also reviewed the strategy options that are available to an organisation to make a strategy choice.

The objective of the next chapter is to synthesize the first two chapters on the critical literature review, and develop propositions to establish the theoretical relationships between environmental uncertainties, long-term planning process and business-level strategies the objective of refining the research questions, research aim and objectives and the stated in Chapter 1.

CHAPTER 4

LITERATURE SYNTHESIS

4.1. INTRODUCTION

Given that few studies have investigated the environment-strategy relationship in developing economies (Kim and Lim 1988 ;Lukas et al,2001; Gao et al.2006), the aim of this thesis is to ascertain the environmental characteristics that are most influential in determining the business-level strategy in the telecommunications sector in Ghana (a developing country in sub-Saharan Africa).

This chapter synthesises the two previous chapters on the critical literature review into a form that would assist in refining the research question, aims and objectives stated in Chapter 1.

4.2. LITERATURE SYNTHESIS

From the critical literature review, the following propositions in relation to environmental uncertainty and strategy are suggested:

- A high level of dynamism and complexity of factors in the external environment creates a high level of perceived uncertainty in an organisation.
- A high level of the application of the long-term planning process is directly related to a high level of perceived uncertainty in an organisation.
- In selecting the appropriate strategy to match the characteristics of the environment, an organisation will select the Prospector strategy if the environment is perceived as highly uncertain.

Proposition (1):

A high level of dynamism and complexity of factors in the external environment creates a high level of perceived uncertainty in an organisation.

From the critical literature review environmental uncertainty is defined as the lack of adequate knowledge regarding the external environmental factors that affects the quality of a decision in an organisation (Duncan 1972; Dill 1958; Daft 2004).

Customers, competitors, suppliers, economy, international, socio-culture, regulatory, and technology in the external environment are identified as factors when stimulated cause uncertainties in organisations (Duncan, 1972; Dill, 1958; Daft, 2004, Miles and Snow, 2003).

For example, in 2008, US Federal Reserve Report (2008) indicated that the decrease in suppliers' credit across the country has created uncertainty in the business environment (Mackenzie, December 2008 publication).

A recent publication on emerging economies by Henisz and Zelner (2010, page 90) argue: "The risk that a government will discriminately change the laws, regulations, or contracts governing investment - or will fail to enforce them- in a way that reduces an investor's financial return."

This type of risk (discriminately change in laws, regulations and contracts) identified by Henisz and Zelner (2010) heightens insecurity and therefore creates uncertainty for business organisations operating in such an environment.

The movement of these external environment factors have attracted several empirical studies. As a result, researchers have propounded various theories as frameworks that can be used to measure the movements of the external factors in order to determine the level of uncertainty present in the environment at any given time.

Daft (2004, page140) argues that:

“The patterns and events occurring in the environment can be described along several dimensions.”

According to Daft (2004) to determine the levels of perceived uncertainty the task environment could be analysed into three categories.

These are: i) change, ii) complexity, and iii) the need for resources.

Other researchers such as Duncan (1972) and Thompson (1967) classify the dimensions of the environment as: i) either dynamic or stable and ii) either simple or complex.

Tung (1979) suggests three environmental dimensions for interpreting and analyzing organisational environment. These are: i) complexity ii) change rate and iii) routines of problem/opportunity states.

The critical literature review has identified different schools of thought for interpreting and analyzing organisational environment. These are:

The Industry Structure school of thought argues that environmental change is caused by the actions of „competitors’ as well as external forces beyond the industry boundaries and therefore change is evolutionary and occurs at an uneven rate. According to this school of thought, the „level of hostility’ (the intense competition found in the industry by an organisation) determines the level of uncertainty perceived in the environment.

The Population-Ecology school of thought argues that organisational population changes in numbers and in characteristics as resources and other elements in the environment change. This school of thought use the „level of munificence’ (resources required) in the environment for the population to determine the level of perceived uncertainty.

The Resource Dependence school of thought argues that environmental change is continuous, and occurs when there is a variation in the system that

affect the resources necessary for the survival of an organisation. This school of thought use the „level of munificence’ in the environment to determine the level of perceived uncertainty.

The Information Uncertainty school of thought argues that it is the lack of imperfect knowledge regarding the environment that causes uncertainty in organisations. Uncertainty therefore refers to the „level of complexity and dynamism’ of getting adequate knowledge regarding the environment (Duncan, 1972; Hitt et al, 1982; Milliken, 1987).

A critical literature review of these schools of thought shows how various studies have measured the levels of uncertainties in organisations differently.

However, the information uncertainty perspective has received much more empirical support in the literature than the other perspectives. Duncan (1972), Miles and Snow (1978) and Hitt et al. (1982) argue that environmental conditions are determined not so much by objective characteristics of the organisation-environment interactions, but by managerial perceptions of the strategic importance of the critical areas contained within different organisational functions. However, Downey et al. (1977) had a different argument and concluded that the characteristics of respondents may influence their perception of environmental uncertainty and can lead to different conclusions from different managers in the same environment.

Following the above arguments and analysing the various dimensions used in measuring environmental uncertainty, the concepts of dynamism and complexity can be applied in measuring the level of uncertainty present in a given environment.

Consequently, one may conclude that a high level of dynamism and complexity, either acting alone or together, can create high level of perceived uncertainty in an organisation. Conversely, a low level of

dynamism and complexity, either acting alone or together, can reduce the overall amount of perceived uncertainty in an organisation.

From the literature review, the level of environmental uncertainty for decision-making purposes is best analysed in terms of its complexity and dynamism (Duncan, 1972; Dill, 1958; Miles and Snow, 1978; Hitt et al 1982; Draft; 2004).

Conclusion:

A high level of dynamism and complexity of factors in the external environment creates a high level of perceived uncertainty in an organisation.

Proposition (2):

A high level of the application of the long-term planning process is directly related to a high level of perceived uncertainty in an organisation.

It is observed from the literature review that uncertainty in the environment, perhaps more than any other factor, affects organisational structure, internal processes and managerial decision-making (Miles and Snow, 1978).

Managing uncertainties in the environment continues to be a major problem for decision units in organisations. However, the literature review argues that organisations that apply the long-term planning process are able to manage the movement of the external factors of the environment and therefore perform better than those that do not engage in long-term planning processes (Armstrong, 1982; Lindsay and Rue, 1980; Rhyne, 1986; Wood and Laforge, 1979).

However, other researchers such as Boulton et al.(1982) and Javidan (1984) argue that although long-term planning continues to play a major role in the decision-making process of big organisations, its application is now not the same as it was during the past twenty years. These researchers argue that

the challenges faced in the current dynamic environment make the application of the long-term planning process very difficult to meet objectives.

Grant (2003) argues that organisations that are able to decentralise, plan their operations in an informal and on a short-term basis are capable of meeting current economic challenges and are more results-oriented.

However, Lindsey and Rue (1980, page402) argue:

“The degree of openness of a long-range planning process is directly related to the degree of environmental complexity and instability for large firms but inversely related for small firms.”

An analysis of Lindsey and Rue’s (1980) argument indicates that the application of a long-term planning process is directly related to the level of environmental complexity and instability perceived by large firms.

Lindsey and Rue (1980) suggested that the top management of small firms tend to centralize planning under adverse conditions and to trust more in their own judgments, however, managers in large firms tend to be more open to information from as many sources as possible.

Rhyne (1986) argues that firms with planning systems more closely resembling the strategic management theory are found to exhibit a superior long-term financial performance both relative to their industry and in absolute terms.

The findings of Rhyne (1986) are consistent with past research on the planning-performance relationship and support the proposition that organisations that adopt comprehensive strategic planning process are able to match their operations with the characteristics of the environment and thereby improve performance.

Based on the above arguments, this study proposes that a decision unit in an organisation will adopt a comprehensive long-term planning process if it perceives the environment as highly uncertain.

Conclusion:

A high level of the application of the long-term planning process is directly related to a high level of perceived uncertainty in an organisation.

Proposition (3):

In selecting the appropriate strategy to match the characteristics of the environment, an organisation will select the Prospector strategy if the environment is perceived as highly uncertain.

Miller and Friesen (1983) suggest that the most appropriate strategy can be selected only if the strategy-making process is right for the environment.

As a contribution to strategy-environment relationship, Reger et al. (1992, page 190) argue:

“The field of strategic management rests on the premise that managers match their firm’s strategies to that of the characteristics of their environment, and that achieving superior matches will enjoy superior competitive positions and levels of performance.”

Reger et al. (1992) argue that a firm will achieve a superior competitive position and attain its targets if it is able to make the right strategic choice that matches the characteristics of its environment.

In support of this argument, Lukas et al. (2001, page 412) suggest:

“The strategic fit paradigm is built on the premise that for a certain set of environmental conditions, a preferred strategic response exists.”

Lukas et al. (2001) argue that for environmental uncertainties to be properly managed the right strategic choice must be made.

Miles and Snow's (1978) study suggest the alternative types of adaptive strategic behaviour that exist for certain set of environmental conditions.

Miles and Snow (1978) based their study on the strategic-choice approach and argued that the effectiveness of an organisation's adaptation hinges on the dominant coalition's perceptions of environmental characteristics and the decisions it makes to cope with these conditions.

Miles and Snow (1978) examine three business-level strategies (the Defender, the Analyzer and the Prospector) to ascertain how these strategies adapt to changes in the environment. Their study was based on previous studies done by researchers such as Chandler (1962); Thompson (1967); Child (1972).

Miles and Snow (1978) argue that the Defender enacts an environment of greater stability than do their counterparts within the same industry.

Furthermore, Miles and Snow (1978) suggest that the Prospector enacts an environment that is more dynamic than those of other types of organizations (the Defender and the Analyzer) within the same industry.

Also, Miles and Snow (1978) argue that the Analyzer exhibits a different configuration of domain, technology, structure, and process from that of the Defender or the Prospector and achieves a balance between the two strategies.

Finally, Miles and Snow (1978) suggest that the Reactors represent a „residual' type of behaviour and are therefore unable to pursue one of the three stable strategies of Defender, Analyzer, or Prospector.

Miles and Snow (1978) concluded that the Defender firm does best in stable environmental conditions, the Prospector in dynamic environmental conditions, the Analyzer achieves a balance in both stable and dynamic environmental conditions and that the Reactor has no strategy.

Researchers such as Zajac and Shortell (1989); Segev (1989); Shortell and Zajac (1990); Smith et al (1986); Desarbo et al, (2005) using empirical studies provide evidence to support the business-level strategies developed by Miles and Snow (1978).

A critical examination of the study by Shortell and Zajac (1990) shows a strong support for the reliability and the validity of Miles and Snow's (1978) business-level strategies as the strategic behaviour of most organisations in different environmental settings. Their results indicate that the Defender strategy is suitable for a stable environment and the Prospector strategy is suitable for a dynamic environment.

Furthermore, the study done by Desarbo et al (2005) confirms the validity and the reliability of Miles and Snow's (1978) business-level strategies in different countries with different cultures.

However, other studies in assessing Miles and Snow's business-level strategies produce mixed results (Luo and Park, 2001; Ramaswamy et al, 1994; Hambrick, 1983; Mahon and Murray, 1981).

Luo and Park (2001) in investigating the environment-strategy-performance relationship of multinational companies in China and observe that the Analyzer strategy performs better than the Prospector and Defender strategies because of the mismatch in China's market which they describe as dynamic and complex.

However, a critical analysis of Luo and Park's (2001) study indicates that they concentrated only on multinational companies (MNC), and this adds to the limitations of the applicability of Miles and Snow's (1978) strategy typology as a framework for analysing business-level strategies.

In spite of the arguments against the applicability of the business-level strategies developed by Miles and Snow (1978) their theory has received much more support in the literature than any other theory on business-level

strategies (Desarbo et al., 2005; Shortell and Zajac, 1990; Segev, 1989; Smith et al, 1986).

From the above arguments, a decision unit in an organisation faced with a high level of uncertainty will adopt the Prospector strategy; conversely, a decision unit in an organisation faced with a low level of uncertainty will adopt the Defender strategy.

Conclusion:

In selecting the appropriate strategy to match the characteristics of the environment, an organisation will select the Prospector strategy if the environment is perceived as highly uncertain.

4.3. CONCLUSION

The literature review therefore suggests the following synthesised outcomes as propositions to guide this study:

- A high level of dynamism and complexity of factors in the external environment creates a high level of perceived uncertainty in an organisation.
- A high level of the application of the long-term planning process is directly related to a high level of perceived uncertainty in an organisation.
- In selecting the appropriate strategy to match the characteristics of the environment, an organisation will select the Prospector strategy if the environment is perceived as highly uncertain.

The National Communications Authority (Ghana) annual report (2008) showed that the telecommunications sector in Ghana has grown from a single monopoly company in 1990 to six companies in 2008. The sector is one of the industries in sub-Saharan Africa that has attracted huge foreign investment from the private sector. Secondly, the sector is still going through deregulation to attract more investment and thirdly, the sector's

operations are subjected to rapid technological changes. The telecommunications sector therefore provides a good case for investigating strategy-environment relationship in a developing country.

Both the conditions prevalent in the telecommunications sector in Ghana and the research gap identified in the literature indicate that this is a valid research area, and that the key issues to examine are:

- What are the most influential environmental factors in the telecommunications sector in Ghana?
- What is the state of the business environment in the telecommunications sector in Ghana?
- How comprehensive is the long-term planning process applied in a case study company? and
- What business-level strategy does the case study company use in response to the environmental conditions in the telecommunications sector in Ghana?

Based on the literature synthesis, the research question for this study is:

What environmental uncertainty characteristics are most influential in determining the business-level strategy in the Telecommunications sector in Ghana?

Research Aim:

The aim of the research is to investigate environmental uncertainty characteristics to determine those that are most influential in the selection of the business-level strategy in the Telecommunications sector in Ghana

Research Objectives:

In order to achieve the aim of this research, the following objectives are pursued:

- To identify the most influential environmental factors in the telecommunications sector in Ghana.
- To find out the state of the business environment in the telecommunications sector in Ghana.
- To examine the level of the application of the long-term planning process in a case study company.
- To identify the business-level strategies that an organisation could select to match the characteristics of the environment.

The research question, together with the associated research aim and objectives, form the basis of the process-based research design which will be carried out in detail in the subsequent chapter.

The next chapter will use the propositions from the literature synthesis to design the appropriate research methodology for the study.

CHAPTER 5

RESEARCH METHODOLOGY

5.1. INTRODUCTION

The literature synthesis in Chapter 4 and the test from the pilot study formed the basis for the development of the following propositions:

- A high level of dynamism and complexity of factors in the external environment creates a high level of perceived uncertainty in an organisation.
- A high level of the application of the long-term planning process is directly related to a high level of perceived uncertainty in an organisation.
- In selecting the appropriate strategy to match the characteristics of the environment, an organisation will select the Prospector strategy if the environment is perceived as highly uncertain.

This chapter outlines the research methodology required to examine the applicability of the above propositions in the telecommunications sector in Ghana.

The details of the research methodology are presented in the following outlines:

- The justification for the research paradigm selected
- The research method adopted
- The population and sample
- Data collection procedures
- Reliability and Validity of data collected

- Data analysis procedures
- Ethical considerations
- Conclusion

5.2. THE JUSTIFICATION OF THE RESEARCH PARADIGM

The central premise of this study is to investigate environmental uncertainty characteristics to determine those that are the most influential in determining the business strategy in the Telecommunications sector in Ghana.

It is observed from the literature review that the strategy–environment relationship has attracted considerable research work in the western world. However, little empirical validation in developing economies (Kim and Lim, 1988; Lukas et al., 2001; Gao et al., (2006) have been carried out.

This study contributes to the literature on strategy-environment relationship in sub-Saharan Africa, and therefore adopts the phenomenological research philosophy to explore the telecommunications sector in Ghana.

Roberts et al. (2005, Page 2/18) suggest that the phenomenological paradigm is appropriate where the researcher wishes to be directly involved in order to understand the processes involved in the subject.

Saunders et al. (2009, page597) define the phenomenological research as:

“Research philosophy that sees social Phenomena as socially constructed, and is particularly concerned with generating meanings and gaining insight into those phenomena.”

Saunders' et al. (2009) argue that the phenomenological research philosophy is an appropriate research method when the researcher seeks to answer why and what questions about a social phenomenon, especially when it involves investigating a population that has a small sample.

Roberts et al. (2009) list some of the weaknesses of the application of the phenomenological paradigm as:

- It lacks the rigour and discipline of positivism,
- It passively allows the researcher too much freedom of action.
- It is open to interpretation because of the high levels of subjective assessment used.
- The researcher interprets the results on the basis of his or her knowledge and experience.
- The issue of people interpreting the same data or results in different ways.

In spite of the weaknesses of the application of the phenomenological paradigm, it was selected as the appropriate strategy for answering the research question; what environmental uncertainty characteristics are most influential in determining the business-level strategy in the telecommunications sector in Ghana?

This study used the qualitative research strategy to collect and analyse data on the business environment in Ghana.

Roberts et al. (2005, page 2/19) suggest that:

“Qualitative research is particularly useful in analysing smaller sample sizes. In such cases, where an exploratory based approach is probably used, qualitative investigation provides the richness and depth of information required. Where the sample is a single company or

organisation, qualitative research can often provide a level of detailed understanding not achievable with quantitative research.”

Kaplan and Duchon (1988, page 573) define the qualitative research method as:

“Qualitative strategies emphasize an interpretive approach that uses data to both pose and resolve research questions. Researchers develop categories and meanings from the data through an iterative process that starts by developing an initial understanding of the perspectives of those being studied.”

Miles (1979, page 590) examined some of the advantages of using the qualitative research method and argues:

- It is rich, full, earthy, holistic, "real"; its face validity seems unimpeachable,
- it preserves chronological flow,
- it suffers minimally from retrospective distortion,
- it offers a far more precise way to assess causality in organizational affairs,
- Data collection requires minimal front-end instrumentation,
- Its data has also attractive qualities for their producers and consumers.

Miles (1979) lists the following as serious weaknesses in the application of qualitative research method:

- The processes of collecting and analyzing the data are highly manual,
- The use of qualitative data means that the methods of analysing data are not well formulated.

5.3. THE RESEARCH METHOD

The research method selected to achieve the objectives of the study was a case study using an organisation from the telecommunications sector in Ghana.

Benbasat et al. (1987, page373) justify the use of a single-case study by arguing that:

“Single-case study projects are most useful at the outset of theory generation and late in theory testing. A single case used for exploration may be followed by a multiple-case study... A single case may also be used to test the boundaries of well formed theory.”

A review of Benbasat et al.'s (1987) argument shows that, a single-case study is appropriate when generating a theory for the first time, and secondly, when the objective of the study is to explore a new field of study.

Yin (2003, page 39) suggests using a single-case study if:

- It represents a critical case for testing a well-formulated theory,
- It is an extreme or unique case,
- It is a representative or typical case,
- It is a revelatory case, i.e., it is a situation previously inaccessible to scientific investigation,
- It is a longitudinal case.

According to Yin (2003) the above five rationales serve as the major reasons for carrying out a single-case study.

Yin (2003, page13) defines a case study as:

“An empirical inquiry that:

- Investigates a contemporary phenomenon within its real life context, especially when,
- The boundaries between phenomenon and context are not clearly evident.”

From Yin’s definition, a case study research is linked to the phenomenological research paradigm where the evidence is investigated for the first time in its natural form as described by Benbasat et al. (1987).

For the purposes of this study, a case study is defined as:

A detailed investigation of a phenomenon when the boundaries of the phenomenon are not clearly evidenced at the outset of the research, and

no experimental control or manipulation is used; employing multiple methods of data collection to gather information from one or a few entities.

However, case studies are challenged as unscientific and therefore difficult to generalize their findings (Yin, 2003; Saunders et al. 2009).

Justification for using Theoretical Propositions for the Case Study

Yin (2009) describes four general strategies that will help case studies to treat evidence collected fairly, produce compelling analytic conclusions, and rule out alternative interpretations.

The four strategies are:

- Relying on theoretical propositions,
- Developing case descriptions ,
- Using both qualitative and quantitative data and,
- Examining rival explanations.

Yin (2009, page 130) describes relying on theoretical propositions as:

“The first and the most preferred strategy is to follow the theoretical propositions that led to your case study. The original objectives and design of the case study presumably were based on such propositions, which in turn reflected a set of research questions, reviews of the literature, and new hypothesis or propositions.”

Yin (2009) justifies the use of propositions for a case study by arguing that:

- They help to shape the researcher’s data collection plan leading to given priorities to only analytic strategies,

- They help to organise the entire case study and define alternative explanations to be examined, and
- The theoretical propositions stemming from „how’ and „why’ questions can be extremely useful in guiding the case study analysis.

Based on the arguments for the justification of relying on propositions to design research methodology for case studies (Yin, 2009), this study used the outcome from the pilot study and the literature synthesis to develop propositions to reflect the research question, research aim and objectives. The second objective of using propositions developed from the pilot study and the literature synthesis was to test previous theories on strategy and environment relationship with data from sub-Saharan Africa so that the study could draw compelling analytical conclusions on strategic management practices in sub-Saharan Africa.

5.3.1. THE POPULATION AND SAMPLE SELECTION

The Telecommunications industry in Ghana as at 31st December, 2008 had six licensed network service operators (National Communications Authority of Ghana, Report 2008). These were : Ghana Telecom Ltd.(Vodafone Ghana), Spacefon Ghana Ltd.(MTN Ghana), Millicom Ghana Ltd.(Tigo), Kasapa Ghana Ltd, Celltel Ghana Ltd., and the last, GloMobile Telecom had just received its license.

Looking at the number of companies in the industry, using advanced probability sample methods such as the simple random sampling, systematic sampling, stratified random sampling, cluster sampling and multi-stage sampling was not convenient.

Saunders et al. (2009, page 233) emphasise the disadvantages of using non-probability sampling, but suggest: “However, within some business research, such as market survey and case study research, this may either not be possible (as you do not have a sample frame) or appropriate to answering your research question. This means your sample must be selected some other way. Non-probability sampling (or non-random sampling) provides a range of alternative techniques to select samples based on your subjective judgment.”

The literature review lists the following as non-probability sampling methods available for data collection: These are quota sampling, purposive sampling, snowball sampling, self-selection sampling and convenience sampling.

This study used purposive sampling to select the case study company.

A purposive sample is defined by Creswell (2003, page 185) as:

“The idea behind qualitative research is to purposefully select participants or sites (or documents or visual material) that will best help the researcher understand the problem and the research question.”

As defined by Creswell (2003) the basis of using the purposive sample method was to enable the candidate collect in-depth data using a small sample size. This method assisted the researcher to understand the research problem and helped in answering the research question.

Relating the current study to the justifications given by Yin (2003) and Benbasat et al. (1987) for using a case study, Ghana Telecom was selected as the case study because:

- It was the only company in Ghana that has experienced both monopoly and competitive periods, and therefore is best

positioned to contribute to the understanding of different levels of environmental changes in the telecommunications sector in Ghana for over ten years.

- Its operation as at the time of the study was geographically spread and covers every district in Ghana
- As at 2009, it was the telecommunications company with the largest fixed network service and had a direct workforce of about 4,000 (Ghana Telecom 2008 Annual Report) making the company the biggest telecom company in Ghana.
- The Vodafone Group has invested an amount of USD 900million in Ghana Telecom, and the Group plans a further investment of over USD700million in the Ghanaian subsidiary (Business Monitor International Ltd. 2nd Report, 2010).
- Initial investigations carried out confirmed that the company's new management has instituted strategic management activities in 2009 to make it more competitive.

However, the findings from the case study using purposive sampling cannot be said to represent the general population of the telecommunications companies in Ghana (Yin, 2003).

In spite of the disadvantages of using case studies, researchers continue to use this research method.

For example, Segev (1989) used only the Faculty of Management at the University of Tel Aviv as a single sample and synthesised two strategic typologies; Levy (1988) used only the University of Arizona to evaluate the effectiveness of a case study as a research methodology during his

doctoral research; Ormerod (2005) used only the UK's parliament as a case study to conduct an in-depth investigation into information system strategic development for parliament; Marginson (2002) used a company drawn from the UK's telecommunications industry and investigated management control systems and their effects on strategy formation at middle-management levels.

The use of Ghana Telecom as the case study therefore followed previous studies where, as a result of the exploratory nature of the investigations, the researchers used case studies to contribute to the development of theory.

5.3.2. THE RESEARCH INSTRUMENT

According to Snow and Hambrick (1980) a firm's strategy can be assessed by four different methods, these are: investigator inference, self-typing, external assessment and objective indicators. Snow and Hambrick (1980) suggest the following as the advantages and disadvantages of the four methods:

- Investigator inference: The main advantages are that the investigator may be able to distinguish between strategic changes and adjustments. Secondly, it is useful for identifying intended rather than realised strategy. The main disadvantage is that it is not suitable for large samples; hence it cannot be relied on to provide sufficient data for testing a hypothesis.
- Self-Typing: This method is where the organisation's managers are made to characterise the organisation's strategies. Researchers such as James and Hatten (1995), Venkatraman (1989), Miles and Snow (1978), Boulton et al.

(1982), Lindsay and Rue (1980) and Miller and Friesen (1983) argued that top managers' perceptions and opinions largely determine the organisation's strategy. The main disadvantages are that managers may find it difficult to differentiate between strategic changes and adjustments, and secondly, it is questionable as a method for identifying realised strategies because executives appear to generally express strategies in terms of intentions.

- The External assessment: The main advantage of this method is the use of experts with opposing views to differentiate strategic change from strategic adjustment for a given company. The main disadvantages according to Snow and Hambrick (1980) are that external experts may not be knowledgeable about current issues, and secondly, it is not suitable for identifying intended strategies.
- Objective method: This method is suitable if data is available for a sufficient time period, say five years or longer. But it may not help to identify current strategies in organisations.

This study used a semi-structured questionnaire to interview respondents. This strategy helped the researcher to collect in-depth data based on the respondent's perception of the telecommunications environment in Ghana. The method helped in answering the research questions.

5.3.3. DATA COLLECTION PROCEDURES

For the purposes of this study, data was collected from multiple sources. These were primary and secondary sources.

Yin (2003, page 98) justified the importance of using multiple sources of evidence in case studies and suggests:

“The use of multiple sources of evidence in case studies allows an investigator to address a broader range of historical, attitudinal, and behavioural issues. However, the most important advantage presented by using multiple sources of evidence is the development of ‘converging lines of inquiry’, a process of triangulation...Thus, any finding or conclusion in a case study is likely to be more convincing and accurate if it is based on several different sources of information, following a corroboratory mode.”

In addition, the candidate inspected the company's published annual reports and annual financial statements, inspected international publications by Business Monitor International on the telecommunications industry in Ghana and the annual reports from the Regulatory Authority in Ghana from the years 2005 to 2009. These secondary reports helped to triangulate the data collected from the primary source.

Primary Data Collection Procedures:

The main source used to collect primary data was by interviews, using a semi-structured questionnaire.

Saunders et al. (1997, page210) define an interview as:

“A purposeful discussion between two or more people...the use of interviews can help you to gather valid and reliable data which are relevant to answer research question(s) and objectives.”

The selection of the twenty-two respondents was based on their functional responsibilities in the case study company.

Data Collection on Environmental Uncertainty

Data collection was based on the perception of the respondents regarding the eight external environmental factors.

Hitt et al. (1982, page 270) argue in support of this perspective and comment:

“The recognisable pattern of organisational responses to environmental conditions is determined not so much by objective characteristics of the organisation-environment interactions as by managerial perceptions of the strategic importance of the critical areas contained within different organisational functions.”

However, studies by Dearborn and Simon (1958); Tosi et al (1973); Bourgeois (1985); Ireland et al.(1987) found differences in environmental perceptions across managerial levels. However, Miller (1993) reports that the difference between top and middle managers in an organisation is less significant, but reports differences between top-level managers and lower-level managers in the same organisation.

In support of his findings, Miller (1993, page 701) argues:

“If uncertainty perceptions are not shared by top-level managers within firms, we would question previous research seeking to explain organisational strategy, structure and processes as responses to uncertainty. It is much less likely that uncertainty perceptions have an impact on organizational strategic decisions if they are idiosyncratic to individuals rather than if they are shared by members of the top management team. If, however, several managers indicate similar uncertainty perceptions, this would provide evidence for the reliability of PEU measures and the legitimacy of treating uncertainties as explanatory variables in organisational research.”

Duncan's (1972) construct of assessing perceived environmental uncertainty was used. This method of assessment has been used and validated extensively in prior studies by organisational theorists such as Bourgeois (1980); Linsey and Rue (1980); Boulton et al. (1982); Miller and Friesen (1983); Venkatraman and Prescott (1990); Tan and Litschert (1994) and generally accepted as a valid measure of environmental uncertainty in organisations. For example, Kourteli (2005) used Duncan (1972) perceived environmental uncertainty (PEU) construct to examine the external environment factors in Greece to determine the level of perceived uncertainty in the country.

Dynamism is defined by Duncan (1972); Miller and Friesen (1978); Boulton et al. (1982) as the amount of variability and unpredictability of factors in the external environment, and Complexity defined as heterogeneity and diversity across all the external environmental factors. This study defines dynamism as the rate of importance and the rate that a factor changes in the external environment.

Data for the simple-complex dimension construct was based on the eight external environmental factors identified at the literature review stage (Appendix B .2, page 207) with a variety of elements in each environmental factor. A copy of the semi-structured questionnaire was first tested during the pilot study to ensure that respondents understood the concepts being investigated. During the interview, respondents were asked to identify elements from different factors of the environment if any, when making a decision. A respondent approached the complex end of the simple-complex dimension when he/she selected a large number of elements located in several different environmental factors.

The same semi-structured questionnaire was used to collect data for the stable-dynamic dimension construct. The twenty-two respondents were

again asked to identify from the eight external environmental factors listed on the questionnaire, those that they perceived as more important. Also, factors that they perceived as difficult to predict because they are may change in the next five years, and lastly, to identify factors they perceived to have changed in the past five years. Furthermore, the interviewer asked the following questions to collect more evidence:

- Why are these factors more important than the other factors in your decision-making?
- What reasons do you assign for predicting that these factors may change in the next five years? and
- What were your reasons that these factors have dramatically changed in the past five years?

Data Collection on the Level of Application of the Long-term Planning Process

A detailed interview on Ghana Telecom's long-term strategic planning process was carried out. The semi-structured interview used for data collection was based on Lindsey and Rue's (1980) long-term planning construct (Appendix B .3. page 208).

This research instrument has been widely used in prior literature and generally graded as a valid measure of long-term planning process in organisations. For example, Al-Shammari et al (2007) adopted this construct to evaluate strategic planning and firm performance from an emergent market perspective. Boulton et al. (1982) adopted this construct to examine the extent of a firm's planning activities. Also, Robinson and Pearce 11 (1983) used this construct to investigate strategic planning in a small firm. Lindsey and Rue's (1980) criteria for assessing levels of planning activities included the firm's use of (i) written long-range

plans covering at least three years; (ii) quantified objectives; (iii) assessment of environmental information; (iv) evidence of specific plans and pro-forma financial statements; (v) the formal review of actual performance against long-term plans.

Data Collection on Business-Level Strategy:

Snow and Hambrick (1980, page 533) in support of the self-typing method of data collection argue:

“(1) Top managers’ perceptions and opinions largely determine the organisation’s strategy (at least its intended strategy), and (2) relatively large data bases can be generated for hypothesis testing.”

However, the self-typing method of assessing strategy is criticised for lack of external confirmation of answers given by managers in an organisation.

The study used the self-typing method of assessing strategy to collect data on the business-level strategy of the case study company.

This measurement approach has been used and validated extensively in prior studies by researchers such as Segev (1989), Slater and Olson (2000), James and Hatten (1995), Shortell and Zajac (1990) and Tan et al. (2006). Tan et al. (2006) used this method of assessment to evaluate the application of Miles and Snow’s (1978) business-level strategic typology in the Chinese electronic industry.

James and Hatten (1995) carried out a study that validated the self-typing approach as a reliable data collection method assessing Miles and Snow’s (1978) business-level strategy.

The interviewees were asked to select from the semi-structured questionnaire (Appendix B.4, page 209) the business-level strategy adapted by the company in response to uncertainties in the environment.

Data collected during the interview was recorded in a field notebook and later analysed. The average time taken by each respondent to conclude the interview was two hours.

Secondary Data Collection Procedure:

This study, besides collecting primary data, used secondary data such as published reports, data from Bank of Ghana and financial statements of the case study company from the years 2005 to 2009. In addition, the study examined external reports from the Telecommunications Regulatory Agency in Ghana and the Telecommunications Report (2010) on Ghana by Business Monitor International. These secondary reports provided evidence that helped to triangulate data collected during the interviews.

Saunders et al. (2009, page269) examine the use of secondary in research and comment:

“Often it can be useful to compare data you have collected with secondary data. This means that you can place your own findings within a more general context or, alternatively, triangulate your findings.”

However, Saunders et al. (2009) list the following as some of the disadvantages of using only secondary data:

- Data may have been collected for a purpose which does not match the needs of this study.
- Access may be difficult or costly.

- Aggregation and definitions may be unsuitable.

The company's published records for the past five years were examined:

- To confirm the strategic vision, mission and objectives of the case study company.
- To confirm any key performance and activity indicators used.
- To confirm how top-level management gave priority to monitoring and control systems in the case study company.

5.4. RELIABILITY AND VALIDITY OF DATA COLLECTED

Construct validity, internal validity, external validity and reliability according to Yin (2003) are the four tests common to all social science methods.

The reliability and validity of this study were achieved as follows:

Construct validity: Construct validity tests were the procedures the candidate put in place to ensure that the correct operational measures for the concepts that were reviewed during the literature review were what the study sought to investigate.

Yin (2003, page35) suggests:

“To meet the test of construct validity, an investigator must be sure to cover two steps:

- Select the specific types of changes that are to be studied(and relate them to the original objectives of the study) and,

- Demonstrate that the selected measures of these changes do indeed reflect the specific types of change that have been selected.”

The research instruments for evaluating the long-term planning process, perceived environmental uncertainty and the business-level strategy of the firm were all based on the critical literature review where past studies (Al-Shammari and Hussein, 2007; Bourgeois, 1980; Boulton et al., 1982; Miller and Friesen, 1983; Venkatraman and Prescott, 1990; Tan and Litschert, 1994; Kourteli, 2005) have validated such constructs and were therefore generally accepted in literature.

Secondly, words and meanings from the constructs were discussed and tested both at the pilot study stage and with the respondents during the main study to ensure that they understood the concepts, definitions and instructions. The semi-structured construct on the long-term planning process, business-level strategy and perceived environmental uncertainty were sent personally to all respondents before the study started and this allowed the respondents enough time to study the questions before the interview began.

In addition, the study used multiple sources of evidence to collect data (Yin, 2003). These were interviews using the semi-structured questionnaire and secondary data from the company's published reports and financial statements, Bank of Ghana reports.

Saunders et al. (2009, page146) describe triangulation as: “The use of different data collection techniques within one study in order to ensure that the data are telling you what you think they are telling you.”

Furthermore, data collected from the in-depth interviews were cross-checked and agreed before finally being recorded.

Lastly, a pilot study was first carried out using one of the telecommunications companies in Ghana. The pilot study company was a mobile telecommunications company in Ghana and therefore operated in the same industry. Although the pilot study company was smaller in terms of operational size, it provided in-depth data on the telecommunications environment and therefore offered the opportunity to test the research instruments before the main study started. In order to achieve construct validity, the study applied the main themes emerging from the literature synthesis to the pilot company, and this assisted to assess the applicability of the literature synthesis outcomes to the research methodology. Five senior management personnel from legal, finance, technology, administration and marketing departments of the pilot study company were interviewed on the long-term planning process, the business strategy of the pilot company and the perceived uncertainty in the business environment in Ghana. The use of a pilot study to test research instrument was an acceptable research practice to ensure construct validity (Roberts et al. 2003).

Internal Validity: The internal validity was difficult to deal with as the study was exploratory (Yin 2003). However, the study used propositions from the literature synthesis outcome and compared them with the outcome of the pilot study to test the internal validity of the study.

External Validity: Although the generalisation of case studies is difficult to achieve (Yin, 2003) a validation test using a larger sample from sub-Saharan Africa was carried out to achieve external validity and reduce the limitation of generalising this case study.

Reliability: To ensure that the study was reliable and could be replicated, every step employed to conduct the research was documented. These

included the research instruments used and data collected from respondents.

5.5. DATA ANALYSIS PROCEDURES

Analysing Data Collected

Warden and Wang (2007) describe qualitative research and analysis as an interactive process shaped by the subject's and the researcher's personal experience, age, gender, race/ethnicity, social class and biases.

Out of the six factors listed by Warden and Wang (2007) bias as a factor can be reduced if not eliminated.

According to Saunders et al. (1997, page 114) bias during a research interview can be reduced and suggest:

“The maintenance of your objectivity will be vital during the analysis stage to make sure that you do not misrepresent the data collected. This will include not being selective about which data to report or, where appropriate, avoiding misrepresentation of its statistical accuracy.”

In this study, strict guidelines for analysing qualitative data were employed.

The procedures for analysing qualitative data include the following:

- Categorisation of data collected (Miles and Huberman, 1994)
- Calculating percentages and providing tables to facilitate analysis (Yin, 2003)
- Recognising relationships for further categorisation (Glaser and Strauss, 1970)
- Developing propositions to reach conclusions. (Yin, 2009)

Yin (2003) argues that reports from case studies do not follow any specific pattern. He suggests that in a case study, a single narrative could be used to describe and analyse the data, and this may be supported with tables and graphs.

In pursuance of the guidelines for analysing qualitative data, this study adopted the following format:

- Detailed written descriptions of each respondent's responsibilities in the case study company.
- Detailed written descriptions of reasons provided by interviewees to support data collected.
- Data collected on the level of the application of the long-term planning process was categorised under:
 - (1) No written long-range planning process- **A**
 - (2) Some level of written long-range planning process- **B**
 - (3) comprehensive application of the long-range planning process - **C**
- Data collected on business-level strategy was categorised under:
 - (1) The Defender strategy
 - (2) The Prospector strategy
 - (3) The Analyser strategy
 - (4) The Reactor strategy
- Data collected on perceived environmental uncertainty was categorised under:
 - (1) Simple-Complex dimension

(2) Static-Dynamic dimension

- Ranking of factors in the external environment by perceived uncertainty.

Data Analysis: Environmental Uncertainty:

Data collected from respondents was analysed as follows:

- Responses from the in-depth interview were analysed and categorised into high and low uncertainty based on the perception of the respondent.
- Data from the self administered questionnaire was furthered analysed to determine the level of uncertainty in the environment.

The multiple sources of data collection used in this study provided additional evidence to support the results from the study.

The environment was categorised into two (2) dimensions. These were the simple-complex dimension and the stable-dynamic dimension based on the work of Duncan (1972), Lindsey and Rue (1980), Boulton et al. (1982), Miller and Friesen (1983), Venkatraman and Prescott (1990), Tan and Litschert (1994), Kourteli (2005).

The simple-complex dimension is defined by Duncan (1972) as the degree to which factors in the decision unit's environment are few in number and are similar to one another in that they are located in a few components; the complex phase indicates that the factors in the decision unit's environment are large in number.

The stable-dynamic dimension is defined as the degree to which the factors of the decision unit's external environments remain basically the same over time or are in a continual process of change.

The computations in Chapter 5 on pages 104 were the examples of the scoring method used by Lindsey and Rue (1980) when they investigated the perceived environmental uncertainty measurement construct of Duncan (1972). This study adopted the same scoring method to determine the level of complexity and dynamism of the telecommunications business environment in Ghana.

Adapted from Lindsey W.M. and Rue L.W.(1980, page 390):Impact of the Organization Environment on the Long-Range Planning Process: Contingency View

(i) Simple-Complex Measurement:

To obtain scores for the simple-complex scale, the total number of items as 3 (“frequently considered”) in the frequency of consideration column were tallied and multiplied by the square of number of different factor categories in which those items appeared. Duncan defended the squaring of the number of factors on the basis that it weights the variability factor between categories more highly than the variability within the same categories.

Thus: Complexity (C) = ($\sum I \times \sum F^2$)

I= items checked, from 1 to 25

F= number of different factor categories such as personnel or technology in which at least one item has been selected.

Example 1: If a respondent selects from 3 different factors (regulatory, technology, supplier) for items 1, 4, 5, and 7 in the external environment section and from 2 different factors(personnel, organisational function) for items 15, 18, 23, and 25 in the internal environment section, he would be scored as follows:

<u>Environmental Complexity</u>	<u>Items</u>		<u>(Categories)²</u>		<u>Score</u>
External	4	X	(3) ²	=	36
Internal	4	X	(2) ²	=	<u>16</u>
Total				=	<u>52</u>

NB:

The 4 each for items under external and internal environmental complexity represent the number of elements within the factors managers deals with in their decision making process and the 3 and 2 represent the number of factors (e.g. customer , technology, etc) from which the items were located in the external and internal environments respectively.

Adapted from Lindsey W.M. and Rue L.W.(1980, pages 390-391):Impact of the Organization Environment on the Long-Range Planning Process: Contingency View

(ii) Stable-Dynamic Measurement:

To obtain scores for the stable-unstable scale a weighted average of the “frequency of consideration” values was added to a weighted average of the “consistency of importance” column.

$$\text{Thus: Stability (S)} = \frac{\sum W_f \times I_f}{6} + \frac{\sum W_i \times I_i}{10}$$

W_f = item weights for items checked in the frequency of consideration column on the questionnaire

I_f = items checked, from 1 to 25, in the frequency of consideration column on the questionnaire

W_i = items weights for items checked in the consistency of importance column on the questionnaire

I_i = items checked, from 1 to 25, in the consistency of importance column on the questionnaire

Example 2: Suppose that a respondent had checked items as follows on his questionnaire:

Environmental Responses	Frequency of Consideration	Consistency of Importance
	<u>3</u> <u>2</u> <u>1</u> <u>0</u>	<u>4</u> <u>3</u> <u>2</u> <u>1</u>
External	8 2 3 0	2 3 2 1
Internal	5 4 2 1	3 1 1 0
Total	<u>13</u> <u>6</u> <u>5</u> <u>1</u>	<u>5</u> <u>4</u> <u>3</u> <u>1</u>

Scoring Method for Stable-Dynamic Measurement

To score his response, the following calculations would be made:

External Environmental Stability

$$\frac{3(8) + 2(2) + 1(3) + 0(0)}{6} + \frac{4(2) + 3(3) + 2(2) + 1(1)}{10} = 7.6$$

Internal Environmental Stability

$$\frac{3(5) + 2(4) + 1(2) + 0(1)}{6} + \frac{4(3) + 3(1) + 2(1) + 1(0)}{10} = 6.0$$

$$\text{Total Environmental Stability} = \underline{\underline{13.6}}$$

Responses were categorised into four classes for internal , external and total environmental “ turbulence” using the median splits for organisations to be classified as high/low complexity and high/low stability such that:

Class 1 – Simple-stable

Class 2 – Complex-stable

Class 3 – Simple-unstable

Class 4 – Complex-unstable

For example, if an organisation had a high complexity score which was above the median level of complexity for all firms, but it had a low stability score such that it was below the median for all firms, it would be put into class 2. Thus, the lower the complexity score, the simpler the environment. The lower the score, the more stable the environment, the higher the score, the more unstable the environment.

Based on the above example from Lindsey and Rue(1980), this study categorised responses into four classes for external environmental “turbulence” using the mean score from the simple-complex dimension construct and the mean score from the stable-dynamic construct to determine the levels of complexity and dynamism of the business environment in Ghana.

(a) **Mean** calculation for the **simple-complex dimension** construct was determined as:

Total number of <u>Items listed from the factors</u>	Number of <u>Factors Squared</u>
---------------------------------------------------------	-------------------------------------

$$21 \quad \times \quad 8^2 \quad = \quad 1344$$

Therefore a respondent who had more than the mean scored of **1344/ 2 = 672 was classified as complex.**

(b)Mean calculation for the **stable-dynamic** dimension construct was determined as:

The highest Mid-point scores were used to determined the mean score

Frequency of Importance	Frequency of Predictable	Frequency of Change
5 4 <u>3</u> 2 1	5 4 <u>3</u> 2 1	5 <u>3</u> 1
0 0 <u>8</u> 0 0	0 0 <u>8</u> 0 0	0 <u>8</u> 0

Thus: Stability (S)

$$= \frac{\sum W_i X I_i}{15} + \frac{\sum W_p X I_p}{15} + \frac{\sum W_c X I_c}{9}$$

Mean Score(S) =

$$= \frac{5(0)+4(0)+3(8)+2(0)+1(0)}{15} + \frac{5(0)+4(0)+3(8)+2(0)+1(0)}{15} + \frac{5(0)+3(8)+1(0)}{9}$$

$$= \frac{24}{15} + \frac{24}{15} + \frac{24}{9}$$

$$= 1.67 + 1.67 + 2.67$$

$$= \mathbf{6.01}$$

A respondent who scored more than 6.01 was classified as perceiving the environment as dynamic.

Responses were classified as high/low complexity and high/low stability such that:

Class 1 – Simple-stable = Where C1 was less than 672 and S less than 6.01

Class 2 – Complex-stable = Where C2 was more than 672 and S less than 6.01

Class 3 – Simple-dynamic = Where C3 was less than 672 and S more than 6.01

Class 4 – Complex-dynamic=Where C4 was more than 672 and S more than 6.01

The scores from the calculations were supported by the analysis of responses received during the interview.

Analysing Data on the Level of the Application of the Long-Term Planning Process

The level of the application of the long-term planning process in the company was categorised as follows:

Category **A** was where the company has no written long-term plan covering at least 3 years into the future;

Category **B** was where the company has a written long term-term plan covering at least 3 years into the future, and the plan includes specification of objectives and goals, the selection of long-term strategies and determination of the future resources required.

Category **C** includes all of the requirements of Category **B** plus procedures for anticipating or detecting errors in, or failures of the plan and for preventing or correcting them on a continuing basis plus some attempt to account for factors outside of the immediate environment of the firm. These should be supported with documentary evidence.

These classifications were in accordance with the classifications used by Lindsey and Rue (1980); Boulton et al (1982); Robinson and Pearce11 (1983); Al-Shammari and Hussein (2007) to evaluate the comprehensiveness of the long-term planning process in organisations.

For analysis purposes data collected on the long-term planning questionnaire was rated as follows:

Long-Term Planning Measurement to test Propositions.

Using Lindsay and Rue (1980, page 391) method of assessing planning completeness questions 1, 3, 5, 6, 10 and 11 were also adopted and scored as follows:

Q1. Assessed whether the company prepared a written long-term plan covering at least 3 years:

- i. No written long-term plan = 0
- ii. Written long-term plan but less than 3 years = 1- 3
- iii. Written long-term plan for 3 year and more(with evidence) = 5

Q3. Assessed whether the long-term plan includes quantified objectives:

- i. No quantified objectives =0
- ii. Quantified objectives but less than three =1-3
- iii. Quantified objectives but more than three(with evidence)=5

Q5. Assessed whether the long-term plan includes one or more pro-forma financial statements:

- i. No pro-forma financial statement =0
- ii. Less than three pro-forma financial statement =1-3
- iii. More three or more pro-forma financial statements (with evidence) =5

Q.6. Assessed whether the long-term plans includes plans and budgets:

- i. No plans and budgets =0
- ii. Budgets with less than four plans =1-4
- iii. Budgets with more than four plans (with evidence)=5

Q10. Assessed whether the long-term plan specifically identified factors in the external environment:

- i. No specific identification of environmental factors =0
- ii. Specifically identified less than eight environmental factors =1-7
- iii. Specifically identified all the eight environmental factors(with evidence)=8

Q11. Assessed procedures for anticipating or detecting differences between plan and actual performance, and for preventing or correcting these differences:

- i. Did not contained procedures =0
- ii. Did contain some level of procedures =1-3
- iii. Did contain high level of procedures(with evidence) =5

Analysing Data on Business-Level Strategy:

Respondents were asked to select from Appendix B.4.on page 209 One only of the four business-level strategies utilized by the firm. The four business-level strategies were adopted from the studies carried out by Miles and Snow (1978).

From the questionnaire, the following business-level strategies were tested:

1. The first strategy listed on the questionnaire was classified as the Defender, which operated best in a stable environment.
2. The second strategy listed on the questionnaire was classified as the Prospector, which operated best in a more dynamic environment.
3. The third strategy listed on the questionnaire was classified as the Analyzer, which operated in any of the environments and was positioned in the middle between the defender and the prospector.
4. The fourth strategy listed on the questionnaire was classified as the Reactor and were described as firms without any focused strategy.

The self-typing method was used to collect data on the strategic orientations. This method of data collection was used by Jennings et al. (2003) to collect data when evaluating Strategy-performance

relationships in service firms. Also James and Hatten (1995) performed further evidence on the validity used the self-typing method of data collection to assess Miles and Snow's (1978) business-level strategies and provided further evidence to support this method of data collection in organisations as reliable. Kouzes and Posner (2008) argued that practicing managers have the cognitive ability to identify the type of strategy used by their firms; hence researchers should utilize this knowledge.

Data collected was categorised under the four business-level strategies and analysed to determine the business-level strategy utilised by the case study company.

5.6. ETHICAL CONSIDERATIONS

Access and ethics were a critical part of this study and this section outlines the strategies the researcher used to gain access and the confidence of the respondents.

This study therefore followed the Regulations and Guidelines of Heriot-Watt University for the conduct of research. The necessary arrangements were made and a formal introductory letter from Edinburgh Business School was sent to confirm the exercise. The importance of the study was explained to the respondents who volunteered to participate. A draft of the findings was sent to a Senior Executive Manager of the company who read through the report.

Easterby-Smith et al. (1991) suggest that a request for access may be more likely to be accepted if the amount of time and resources required are kept to a minimum.

The respondents were given the option to schedule the time and day to be interviewed.

Another important area of concern was the sensitive nature of corporate data. According to Saunders et al. (2009) organisations are less likely to co-operate where the topic of the research has a negative inference. To overcome this problem, a discussion was held with the respondents before the study commenced. The confidentiality of data provided by participants was safeguarded. Secondly, the anonymity of the individual who participated was guaranteed.

According to Zikmund (1994) the maintenance of objectivity is vital during the analysis stage to ensure that the researcher did not misrepresent the data collected. The researcher placed a great deal of trust on his integrity and ensured that any significant ethical issue would not be opened to question.

5.7. CONCLUSION.

This chapter described in detail the research methodology used to collect and analyse data based on the research aim and objectives which were developed from the literature synthesis in Chapter 4.

The research philosophy adopted was the phenomenological research paradigm, because it facilitated the answering of the research question and enabled the researcher to be alive to changes which occurred during the study.

The sample method used to select the case study was the purposive sampling method because of the small number of service providers (6) in the telecoms industry in Ghana. Sources of data collection were from both primary and secondary sources. The study used semi-structured questionnaire to collect data from twenty-two respondents from the case study company. The research instrument used to collect data on

environmental uncertainty was based on Duncan's (1972) environmental complexity and dynamism constructs of the eight external environmental factors identified from the literature review. The research instrument used to examine the level of application of the long-term planning process was based on Lindsey and Rue's (1980) long-term planning construct, and the assessment of the business-level strategy of the case study company was based on Miles and Snow's (1978) strategy typologies. The qualitative method was used in analysing the data collected. This included a detailed description of responses from interviewees and the categorisation of data

The chapter further examined the validity and reliability of the data collection methods.

Lastly, the chapter considered the ethical issues involved during data collection to ensure that the report was of the required standard.

The next chapter describes in detail how data from the case study company was collected and analysed.

CHAPTER 6

DATA COLLECTION AND ANALYSIS

6.1. INTRODUCTION.

The previous chapter provided a detailed account of the research methodology required to examine the propositions developed at the literature synthesis stage in chapter 4. The propositions are:

- A high level of dynamism and complexity of factors in the external environment creates a high level of perceived uncertainty in an organisation.
- A high level of the application of the long-term planning process is directly related to a high level of perceived uncertainty in an organisation.
- In selecting the appropriate strategy to match the characteristics of the environment, an organisation will select the Prospector strategy if the environment is perceived as highly uncertain.

Chapter 6 describes in detail how data was collected and analysed in order to investigate the above propositions using a case study company from a developing country (Ghana).

To achieve the aim of collecting and analysing data, this chapter is grouped into the following sections:

- Data collection and Analysis (environmental uncertainty, long-term planning process and, the strategic orientation of the case study company).

- Nonparametric tests to examine the association between perceived environmental uncertainty and the level of the application of long-term planning process in the case study organisation, and the association between environmental uncertainty and the business-level strategy of the case study organisation.
- The results of the study.

6.2. DATA COLLECTION AND ANALYSIS

Twenty-two participants from the case study company volunteered to participate in the interview. The participants were in two groups. The first group were eleven (11) Senior Managers from the Head Office of the company and the second group were eleven (11) Regional Managers from the eleven administrative regional offices of Ghana Telecom in Ghana. The Regional Managers were selected because they were responsible for the implementation of business-level strategies at the regional levels. The anonymity of respondents and confidentiality of corporate data were discussed and agreed in accordance with research ethics. The Appendix A on page 205, shows functional areas and responsibilities of respondents who participated in the study.

Data collection for the study started in July 2009 and completed in August, 2010.

Respondents administered semi-structured questionnaires on:

- The importance of each environmental factor in their decision making process and the rate that an external environmental factor changes (difficult to predict for decision making purposes). Appendix B .2 page 207.

- The level of the application of the long-term planning process in the case study company to assess how comprehensive the long-term planning process was implemented by the case study company. Appendix B.3, page 208.
- The strategic orientation adapted by the case study company to manage perceived uncertainties in the external environment. Appendix B.4, page 209

In addition, secondary records such as the case study company's published reports and financial reports from 2005 to 2009 as well as published records from the Bank of Ghana from 2005 to 2009 were examined to triangulate the data collected from the primary source.

6.2.1. 1. DATA COLLECTION: ENVIRONMENTAL UNCERTAINTY

Based on empirical support for the information uncertainty perspective, this study adopted the perceptual method using Duncan's (1972) perceived environmental uncertainty construct.

The two perceived environmental uncertainty dimensions construct for assessment were dynamism and complexity. Dynamism was defined by this study as the amount of variability and unpredictability of factors in the external environment, and Complexity as the mean of heterogeneity and diversity across all the eight external environmental factors (Duncan, 1972; Miller and Friesen, 1983; Lindsey and Rue, 1980; Boulton et al, 1982; Kourteli, 2005). Data for the simple-complex dimension construct was based on eight external environmental factors (Appendix.B.2 .page 207) with a variety of items listed in each environmental factor and the same semi-structured questionnaire was used to collect data for the stable-dynamic dimension.

6.2.1.2. DATA ANALYSIS: SIMPLE- COMPLEX DIMENSION CONSTRUCT

To determine how each respondent perceived the environment on the simple -complex, dimension, the following scores were allocated based on the items identified from each factor.

The following numbers of items were listed for the assessment:

<u>F= (Factors)</u>	<u>I = (Items)</u>	<u>Total Score</u>
Customers: (Wholesalers, Retailers, customers)		=3
Suppliers: (Equipment Suppliers, Parts Suppliers)		=2
Competitors: (Competitors for Suppliers, Competitors for Customers)		=2
Economy: (The Market, Interest Rate, Economic Growth)		=3
Socio-Culture: (Trade Union, Social Values, Work Ethics, Demography)		=4
International: (World Economy, Exchange Rate, Imports)		=3
Regulatory: (Government Regulatory Controls, Political Attitude toward the Industry and Service)		=2
Technology :(New Technology Requirements, Improving and Developing new services)		=2
		<u>21</u>

Thus: Complexity was determined as $C = (\sum I \times \sum F^2)$

Where I = items selected, from 1 to 21

Where F = number of different factor categories such as Supplier or Technology in which items have been selected as frequently considered.

Mean calculation for the simple-complex dimension construct was determined as:

Total number of	Number of
Items listed from the factors	Factors Squared

$$21 \quad \times \quad 8^2 \quad = \quad 1344$$

Therefore a respondent who had more than the mean scored of $1344/2$
= **672** was classified as complex.

Table 6.1. DATA ANALYSIS: SIMPLE-COMPLEX DIMENSION

Respondents	Items		Facto rs		Tota l	Simple- Complex
H1	19	X	8^2	=	1216	Complex
H2	16	X	8^2	=	1024	Complex
H3	15	X	8^2	=	960	Complex
H4	16	X	8^2	=	1024	Complex
H5	16	X	8^2	=	1024	Complex
H6	16	X	8^2	=	1024	Complex
H7	16	X	8^2	=	1024	Complex
H8	17	X	8^2	=	1088	Complex
H9	16	X	8^2	=	1024	Complex
H10	16	X	8^2	=	1024	Complex
H11	17	X	8^2	=	1088	Complex
R1	14	X	7^2	=	686	Complex
R2	15	X	7^2	=	735	Complex
R3	14	X	7^2	=	686	Complex
R4	15	X	7^2	=	735	Complex
R5	14	X	7^2	=	686	Complex
R6	15	X	7^2	=	735	Complex
R7	14	X	7^2	=	686	Complex
R8	14	X	7^2	=	686	Complex
R9	14	X	7^2	=	686	Complex
R10	14	X	7^2	=	686	Complex
R11	15	X	7^2	=	735	Complex

The analysis of data on the simple-complex dimension construct on page 120, Table 6.1, shows that all the respondents scored more than the mean score of 672 and therefore perceived the environment as complex.

The data on the simple-complex dimension construct showed that the Regional Managers in decision making did not consider international as a factor in the external environment. The other items that the Regional Managers did not consider in their decision making were: 1. Supplier- equipment from suppliers, 2. Competitor- competing for suppliers, 3. Technology- new technology requirement. These items accounted for the difference in the scores between the Regional Managers and the Head Office Managers in their decisions making process.

6.2.1.3. DATA ANALYSIS: STABLE-DYNAMIC CONSTRUCT

For analysis purposes, respondents assessed the external environmental factors on a five-point Likert scale for;

Importance:

very often, 5; frequently, 4; sometimes, 3; almost never, 2; never, 1.

Predicted to Change in 5 years:

very often, 5; frequently, 4; sometimes, 3; almost never, 2; and never, 1.

And on a three-point Likert scale for;

Changed within the last 5 years:

dramatic change, 5; about middle, 3; little change, 1.

To obtain the scores for the stable-dynamic construct, the weighted average of the “frequency of importance” values was added to the weighted average of the “frequency of predicted to change” values and

added to the weighted average of the “frequency of changed in the past” values. A separate score was calculated for each respondent.

Mid-point score used as the cut off point to determine the levels of environmental stability was 6.01 as calculated in Chapter 5 on page 108.

Table 6.2. Data Analysis: Stable-Dynamic Construct

	Frequency of Importance					Frequency of Predictable					Frequency of Change			Weighted Average
<i>Scoring</i>	<i>5</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1</i>	<i>5</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1</i>	<i>5</i>	<i>3</i>	<i>1</i>	
Responses														
H1	8	0	0	0	0	2	1	3	0	2	6	0	2	7.89
	2.67	0.00	0.00	0.00	.00=2.67	0.67	0.27	0.60	0.00	0.13 =1.67	3.33	0.00	0.22 =3.55	
H2	4	2	1	0	1	3	2	0	2	1	5	1	2	7.33
	1.33	0.53	0.20	0.00	.07=2.13	1.00	0.53	0.00	0.27	0.07=1.87	2.78	0.33	0.22 =3.33	
H3	4	1	1	2	0	3	1	1	2	1	5	1	2	7.21
	1.33	0.27	0.20	0.27	.00=2.07	1.00	0.27	0.20	0.27	0.07=1.81	2.78	0.33	0.22 =3.33	
H4	5	0	1	1	1	3	1	2	1	1	5	0	3	7.05
	1.67	0.00	0.20	0.13	0.07=2.07	1.00	0.27	0.40	0.13	0.07=1.87	2.78	0.00	0.33 =3.11	
H5	6	1	1	0	0	2	2	1	1	2	5	0	3	7.24
	2.00	0.27	0.20	0.00	.00=2.47	0.67	0.53	0.20	0.13	0.13=1.66	2.78	0.00	0.33 =3.11	
H6	6	1	0	1	0	4	1	3	0	0	5	1	2	7.93
	2.00	0.27	0.00	0.13	.00=2.40	1.33	0.27	0.60	0.00	0.00=2.20	2.78	0.33	0.22 =3.33	
H7	2	2	4	0	0	2	3	1	2	0	5	1	2	7.27
	0.67	0.53	0.80	0.00	0.00=2.00	0.67	0.80	0.20	0.27	0.00=1.94	2.78	0.33	0.22 =3.33	
H8	4	1	2	0	1	2	3	1	2	0	4	3	1	7.34
	1.33	0.27	0.40	0.00	0.07=2.07	0.67	0.80	0.20	0.27	0.00=1.94	2.22	1.00	0.11 =3.33	
H9	6	1	1	0	0	2	2	1	1	2	5	0	3	7.24
	2.00	0.27	0.20	0.00	0.00=2.47	0.67	0.53	0.20	0.13	0.13=1.66	2.78	0.00	0.33 =3.11	
H10	2	3	1	1	1	4	0	2	1	1	4	3	1	7.13
	0.67	0.80	0.20	0.13	0.07=1.87	1.33	0.00	0.40	0.13	0.07=1.93	2.22	1.00	0.11 =3.33	
H11	4	3	1	0	0	3	1	2	0	2	5	1	2	7.46
	1.33	0.80	0.20	0.00	0.00=2.33	1.00	0.27	0.40	0.00	0.13=1.80	2.78	0.33	0.22 =3.33	
R1	3	3	2	0	0	1	3	1	2	1	4	1	3	6.75
	1.00	0.80	0.40	0.00	0.00=2.20	0.33	0.80	0.20	0.27	0.07=1.67	2.22	0.33	0.33 =2.88	
R2	7	0	0	0	1	2	1	2	0	3	4	2	2	7.05
	2.33	0.00	0.00	0.00	0.07=2.40	0.67	0.27	0.40	0.00	0.20=1.54	2.22	0.67	0.22 =3.11	
R3	6	1	1	0	0	1	2	1	3	1	4	2	2	7.11
	2.00	0.27	0.20	0.00	0.00=2.47	0.33	0.53	0.20	0.40	0.07=1.53	2.22	0.67	0.22 =3.11	
R4	5	2	0	1	0	1	3	1	0	3	3	2	3	6.53
	1.67	0.53	0.00	0.13	0.00=2.33	0.33	0.80	0.20	0.00	0.20=1.53	1.67	0.67	0.33 =2.67	
R5	6	2	0	0	0	1	0	3	0	4	2	3	3	6.17
	2.00	0.53	0.00	0.00	0.00=2.53	0.33	0.00	0.60	0.00	0.27=1.20	1.11	1.00	0.33 =2.44	
R6	7	0	0	0	1	2	1	2	0	3	4	2	2	7.05
	2.33	0.00	0.00	0.00	0.07=2.40	0.67	0.27	0.40	0.00	0.20=1.54	2.22	0.67	0.22 =3.11	
R7	4	1	0	2	1	2	1	2	0	3	3	2	3	6.15
	1.33	0.27	0.00	0.27	0.07=1.94	0.67	0.27	0.40	0.00	0.20=1.54	1.67	0.67	0.33 =2.67	
R8	5	1	1	0	1	2	3	0	0	3	5	1	2	7.21
	1.67	0.27	0.20	0.00	0.07=2.21	0.67	0.80	0.00	0.00	0.20=1.67	2.78	0.33	0.22 =3.33	
R9	4	1	0	1	2	0	1	3	1	3	3	2	3	5.73
	1.33	0.27	0.00	0.13	0.13=1.86	0.00	0.27	0.60	0.13	0.20=1.20	1.67	0.67	0.33 =2.67	
R10	6	1	1	0	0	1	2	2	0	3	5	0	3	7.04
	2.00	0.27	0.20	0.00	0.00=2.47	0.33	0.53	0.40	0.00	0.20=1.46	2.78	0.00	0.33 =3.11	
R11	7	0	0	0	1	2	1	2	0	3	4	2	2	7.05
	2.33	0.00	0.00	0.00	0.07=2.40	0.67	0.27	0.40	0.00	0.20=1.54	2.22	0.67	0.22 =3.11	

The study used Spearman rank-order correlation coefficient to assess the relationship between the perception of Head Office Managers and the perception of the Regional Managers in assessing environmental stability in the telecommunications sector in Ghana. This test was important because differences in perspective occur not only among individual managers, but also across groups of managers in the same organisation based on their experiences and job responsibilities (Marginson, 2003).

Spearman's rank correlation coefficient , $r_s = 1 - \frac{6\sum d^2}{n(n^2-1)}$

where :

d is the difference between the ranks for each pair.

n is the number of paired observations.

Table 6.3. Ranked – Order Correlation: The perception of Head Office and Regional Managers, Environmental stability

Head Office Managers (X)	Regional Managers (Y)	Head Office Ratings (X)	Regional Ratings (Y)	Ranking (X)	Ranking (Y)	D	d ²
H1	R1	7.89	6.75	10	5	5	25
H2	R2	7.33	7.05	7	8	-1	1
H3	R3	7.21	7.11	3	10	-7	49
H4	R4	7.05	6.53	1	4	-3	9
H5	R5	7.24	6.17	4.5	3	1.5	2.25
H6	R6	7.93	7.05	11	8	3	9
H7	R7	7.27	6.04	6	2	4	16
H8	R8	7.34	7.21	8	11	-3	9
H9	R9	7.24	5.73	4.5	1	3.5	12.25
H10	R10	7.13	7.04	2	6	-4	16
H11	R11	7.46	7.05	9	8	1	1
						0	149.50

$$r_s = 1 - \frac{6 \sum d^2}{n(n^2 - 1)} = 1 - \frac{6 \times 149.50}{11^3 - 11} = 0.32$$

The value of 0.32 indicates a positive correlation between the ratings by the Head Office Managers and the ratings by the Regional Managers.

Test of Significance of r_s

$$H_0: P_s = 0$$

$$H_A: P_s \neq 0$$

$$\begin{aligned}
 t = r_s \sqrt{\frac{(n-2)}{1-r_s^2}} &= 0.32 \times \sqrt{\frac{9}{1-0.32^2}} \\
 &= 0.32 \times 10.03 \\
 &= 3.21 \text{ with 9 degrees of freedom.}
 \end{aligned}$$

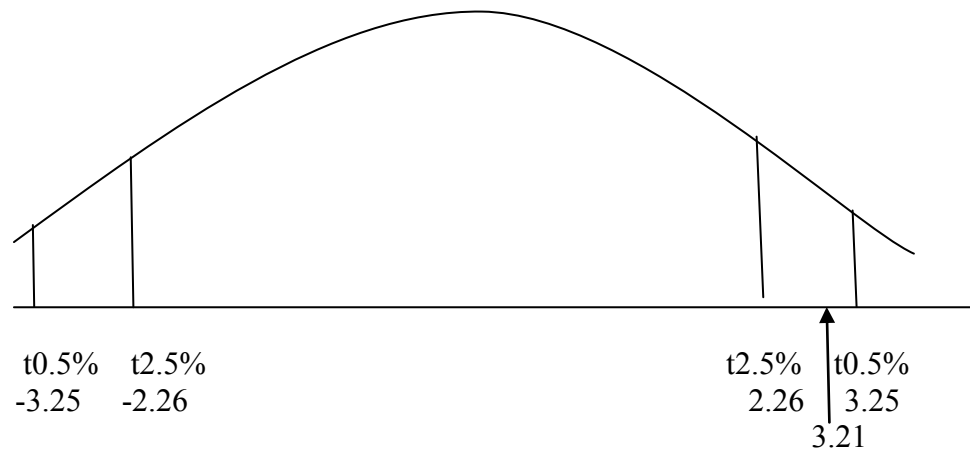


Figure 6.1. Distribution of Sample Means under the Null Hypothesis: the rank Correlation Coefficient

As the calculated value of the t-statistic is in the right tail, the decision is to formally reject the null hypothesis at the 5 % level of significance. The conclusion is that the Spearman's rank correlation coefficient is significantly different from zero. This indicates that there is a positive correlation between the rankings by the two groups of managers from the case study company.

Table 6. 4. THE ENVIRONMENTAL STATE DIMENSIONS

Categories of Perceived Environmental Uncertainty	Head Office Managers	Regional Managers	Total
Simple-Stable	0	0	0
Complex-Stable	0	1	1
Simple-Dynamic	0	0	0
Complex-Dynamic	11	10	21
Total	11	11	22

Table 6.5. THE PERCEPTION BY RESPONDENTS: THE RATE OF IMPORTANCE AND THE UNPREDICTABILITY OF FACTORS IN THE EXTERNAL ENVIRONMENT IN GHANA

THE RANKING OF IMPORTANCE			THE RANKING OF UNPREDICTABILITY			WEIGHTED AVERAGE		
Factors	No. of Response	%	Factors	No. of Response	%	Factor	Weighted Average Score	Ranking
Customer	20	90.91%	Economy	18	81.82%	Economy	81.82%	1
Economy	18	81.82%	Technology	17	77.27%	Customer	72.73%	2
Regulatory	15	68.18%	Regulatory	14	63.64%	Regulatory	65.91%	3
Competitor	15	68.18%	Customer	12	54.55%	Technology	65.91%	3
Technology	12	54.55%	Competitor	11	50.00%	Competitor	59.09%	5
Socio-culture	12	54.54%	International	7	31.82%	Socio-culture	36.36%	6
International	7	31.82%	Supplier	6	27.27%	International	31.82%	7
Supplier	6	27.27%	Socio-culture	4	18.18%	Supplier	27.27%	8

Duncan's (1972) "Environmental State Dimensions and Predicted Perceived Uncertainty" framework on page 31 was used to analyse the results of the data collected. Table 6.4. on page 126 shows that 4.55% of the respondents perceived the factors in the external environment as complex-stable and therefore moderately low uncertainty, whilst 95.45% perceived the factors in the external environment as complex-dynamic and therefore classified as high uncertainty.

Table 6.5. on page 127 shows that 90.91% of the responses perceived Customers as the most important external environmental factor, followed by the Economy 81.82%, Regulatory and Competitors had 68.18% each of the total responses. The assessment of unpredictability of the factors in the external environment showed that the Economy was rated 81.82% indicating this factor was perceived as the most unstable factor in the

telecommunications business environment in Ghana. Technology was rated 77.27% of the total responses. Regulatory and Competitors scored 63.64% and 54.55% respectively of the total responses.

The analysis of qualitative data collected during the interview.

The interviewer asked respondents the following questions during the interview:

- ✓ Why do you perceive the factors you selected as more important than the other factors?
- ✓ What reasons do you assign for predicting that these factors will change in the next five years?
- ✓ Why do you think these factors dramatically changed in the past five years?

The following were some specific responses explaining why some of the factors were perceived as: **‘important’** in their decision making process, **‘predicted’** to change in the next five years, and observed to **‘have changed’** in the past five years in the telecommunications business environment. Interview data was compared with secondary data collected to draw conclusions.

The Economy of the country as an Unstable External Environmental Factor in Ghana.

- i. Director-External Affairs „The economy of Ghana has over the past years shown downwards trends. The effects are the pressure on the disposable income of customers, the cost of borrowing in the country; to mention just few examples.”
- ii. Secondary data from the Bank of Ghana (www.bog.gov.gh) from the year 2005 to 2009 was collected to triangulate the statement made by the Director- External Affairs on the stability of the economy.

	2005	2006	2007	2008	2009
Inflation (Annual Average)	15.03%	10.50%	12.80%	18.10%	19.30%
Exchange Rate (GHS/USD)	0.91	0.92	0.97	1.21	1.43
Interest Rate (Annual Average)	26.25%	24.45%	25.12%	27.22%	32.75%

- iii. Secondary data from an international research organisation, Business Monitor International Ltd (first quarter report on Ghana ,March, 2010, p 13) states:

“While Ghana’s GDP per capita is expected to grow rapidly over the next few years, it remains relatively low by regional standards. The country’s economy also has several structural vulnerabilities, not least its overwhelming dependence on the agricultural sector and its narrow export portfolio, predominantly cocoa and gold; these expose the country to the vagaries of the commodity markets”.

Analysis of Data:

(a) The Director, External affairs’ response:

- a. The economy was not strong – unstable economy.
- b. Pressure on disposable income of customers- Persistent wage demands could lead to high cost of operation.

(b) Bank of Ghana Published economic data:

- a. Inflation rate in 2005 was 15.03% and in 2009 increased to 19.30%. The difference between these rates was 4.27%. Using the year 2005 as the base, inflation increased by 28.41% in 2009 $[(19.30\% - 15.03\%) / 15.03\% \times 100\%]$ – This was an indication of high cost of operation.

- b. Local exchange rate to the US dollar in 2005 was GHS0.91/ USD1 and in 2009 increased to GHS1.43/1USD. Using the year 2005 as the base, the exchange rate deteriorated by 57.14% in 2009 $[(\text{GHS}1.43 - \text{GHS}0.91) / \text{GHS}0.91) \times 100\%]$ – This showed that the cost of imports increased; hence the operational cost of the companies in Ghana increased.
- c. The interest rate on borrowing in 2005 was 26.25% and in 2009 increased to 32.75%. Using the year 2005 as the base, the cost of borrowing in Ghana increased by 24.71% in 2009 $[(32.75\% - 26.25\%) / 26.25\%) \times 100\%]$ – This showed that the cost of borrowing over the years became more expensive and the effect was the funding of new projects could be expensive in the country.

The above arguments from the response of the Director, External Affairs and the analysis of secondary data from the Bank of Ghana, indicated that the economy of Ghana from 2005 to 2009 was weak and unstable for long- term planning purposes. This underlined the reason why 81.92% of responses selected the economy as the most unstable factor in the external environment.

**Regulatory Environment as an Unstable External Environmental
Factor in Ghana**

i. Chief Technical Officer „Our industry is highly regulated. Regulatory issues are therefore very important to our operations. The periodic regulatory and legal changes by agencies such as the National Communications Authority, the Metropolitan Assemblies, the Environmental Agency etc, affect our operations and therefore the profitability of the industry’.

ii. The secondary data from The Regulatory Agency in Ghana showed that from the year 2005 to 2009 there were several changes in the laws regulating the sector. For example :

- In 2005, the National Telecommunications Policy (NTP) 2005 was launched by the sector Ministry to give policy direction to the industry.
- In 2008, the National Communications Authority ACT 1996, Act 524 was repealed by National Communications Authority ACT 2008, Act 768.
- In 2008, the Electronic Communications Act 2008, Act 775 became the main Act that governed the sector.
- In 2008, the Communications Service Tax, 2008, Act 754 was passed to create a communications service tax in the industry.
- In 2009, the Electronic Communications (Amendment) Act 2009, Act 786 was passed to set a minimum rate for incoming international traffic to Ghana.

(iii) Ghana Business News, a leading business magazine in Ghana reported in February, 2010:

“Government Introduces Blanket Ban On Telecom Masts”

Ghana Business News reported that the country’s Ministry of Environment, Science and Technology (MEST) had imposed an immediate ban on the mounting of telecoms masts in Ghana „until further notice’. This move by the ministry was criticised by the telecoms operators in Ghana. In particular, the move was seen as potentially having unfortunate consequences for the expansion of mobile coverage into rural areas; it could also hinder capacity improvement in high traffic areas.

Analysis of Data:

(a) The Chief Technical Officer’s response:

- a. The telecommunications sector was highly regulated – the sector although has been privatised is not fully deregulated. The sector was therefore perceived as unstable.
- b. Government interest groups (Local Authorities, Communications Agency, The ministries etc) with different by-laws made regulation of the sector more complicated for long-term planning.

(b) Laws and Acts passed in the sector:

- a. From 2005 to 2009 five new laws were passed. These ACTs such as the Communications Service Tax and the new termination rate of 19 cents on incoming international traffic imposed additional operating cost on the service providers in Ghana. This indicated how regulation was used to tax the sector.
- b. Ghana Business News Report on the Ministry of Environment Science and Technology introducing blanket ban on masts construction- This action by the ministry indicated lack of coordination in the country as this directive should either have been given by the Ministry of

Communications or the Regulatory Agency of the sector- The action showed elements of uncertainty in the business environment.

From the response of the Chief Technical Officer and the analysis of secondary data from 2005 to 2009, regulatory environment as a factor in the external environment was perceived as unstable. This accounted for the reason why 66.67% of responses selected the regulatory as important and 61.90% as unpredictable in their decision making process.

Competitors in the Sector, as an Important External Environmental Factor in Ghana

- i. Communications Director “With five service providers and the sixth expected to be in operation by the last quarter of 2010, competition is keen in Ghana. Mobile rates are coming down and the cost of advertising is increasing. We give out promotional rates and airtime to keep our customers.”
- ii. Daily Graphic, September 12th, 2010 Ghana Telecoms advertised reducing mobile calling rate to GHS0.08 per minute. Zain Ghana Ltd. reacted by reducing its tariffs to GHS0.08 per minute with the objective of maintaining its position as the company with the lowest tariff in Ghana. In November, 2010 MTN also reduced its mobile calling rate to GHS0.075 per minute.

Analysis of Data

(a) The Communications Director’s response:

- a. Five service providers and with the sixth expected in 2010.-more competitors means more competition.
- b. Mobile rates coming down- This shows that the market structure has changed. Zain Ghana Ltd.started mobile services in 2008 and had

used low rates to penetrate the market- The decreased mobile rates was a sign of intensive competition in the sector in Ghana.

c. More advertisements and promotions in the sector to keep customers- This showed how vibrant the market was as a result competition.

(b) Daily Graphic publication:

a. This advert in the daily news paper and the reaction by Zain Ghana Ltd and MTN Ghana Ltd. corroborate the response made the Communications Director on the falling of mobile rates in Ghana. – The falling mobile rates indicated keen competition in the sector.

From the response of the Commercial Director and the analysis of secondary data, competition as a factor in the external environment was perceived as very dynamic. This accounted for the reason why 68.18% of responses selected the competitor as important and 50.00% as unpredictable in their decision making process.

Customer behaviour, as an Important External Environmental Factor in Ghana.

i. Director, External Affairs “We ensure that customers’ needs are at the core of all products and services. Understanding these needs and continuing to serve them is the key to Vodafone’s customer strategy. In delivering solutions that meet customers’ changing needs in a manner that is easy to access and is available when required, Vodafone aims to build a longer and deeper customer relationship.”

Analysis of Data

(a) Analysing the Director, External Affairs statement, the customer's needs keep on changing and the strategy was to deliver solutions that would establish longer and deeper customer relationship. This response showed why customer as a factor was rated 90.48% as very important in the environment. The other reason could be attributed to increased competition in the sector.

6.2.2.1. DATA COLLECTION: THE LEVEL OF THE APPLICATION OF THE LONG-TERM PLANNING PROCESS IN THE CASE STUDY COMPANY.

The 22 respondents administered a semi-structured questionnaire to evaluate the level of the application of the long-term planning process in the case study company. The semi-structured questions were based on Lindsey and Rue (1980) long-term planning construct (Appendix B .3 page 208). Al-Shammari and Hussein (2007) used this construct to evaluate strategic planning and firm performance linkage in an emergent market (Jordan, Middle-East).

6.2.2.2. ANALYSIS OF DATA

The levels of the application of the strategy process model was categorised as follows:

- A respondent was awarded a **class A** for stating that the company had no long-term planning covering a period of three years.
- A respondent was awarded a **class B** for stating that the company achieved some of the areas emphasised in the long-term planning construct.

- A respondent was awarded a **class C** for stating that the company achieving all the areas emphasised in the long-term planning construct and supported by documentary evidence.

The classification by Lindsey and Rue (1980) was also adopted by Boulton et al (1982), Robinson and Pearce11 (1983), and Al-Shammari and Hussein (2007).

From the interview and documentary evidence available, the analysis of data on the level of the application of the long-term planning process in the case study company was as follows:

- The case study company had a written long-term plan for three years.
- The company had a long-term vision and developed four key strategic objectives. The four key strategic objectives were developed in 2009 and would be pursued from 2010 to the year 2013. The strategic vision, mission and objectives of Ghana telecom developed in 2009 were:

Strategic Vision: To be the communications leader in the increasingly connected world.

Strategic Mission: To be the number two in the mobile market and the best place to work in Ghana.

Strategic Objectives were to:

- I. Achieve market growth in Ghana. This strategy aimed at penetrating deep into new areas on the Ghanaian market- Rural and under- served areas of the country. The objective was to achieve 30% of mobile market share in Ghana by 2013 and be in the second position. Currently the company has 18.90%.

- II. Own the business market by bundling fixed and mobile market.
The target was to serve high valued customers in corporate businesses of Ghana.
 - III. Cut cost in our business. This strategy objective was to replace old copper wires with fibre which was described as more efficient. Investment of USD600, 000 over a period of 5 years would be made.
 - IV. Energise the company. This strategy objective was to build core values, work ethic and culture; pay good remunerations to make the case study company the best employer in the telecommunications sector in Ghana. An example the company gave was attracting six top staff from competitors and losing only one to a competitor in 2009.
- One of the key strategic objectives of the case study company was to achieve growth in customer base from 2.13 million in 2010 to 4.00 million in 2013.

Table 6.6. STATISTICS FROM CASE STUDY COMPANY

	2005	2006	2007	2008	2009/2010 (March)	June 2010
	GHS	GHS	GHS	GHS	GHS	
Revenue (million)	218	247	271	259	430	
% Growth	<u>0.00%</u>	<u>11.74%</u>	<u>9.72%</u>	<u>-4.42%</u>	<u>66.00%</u>	
Mobile Subscribers (million)	0.27	0.88	1.28	1.59	2.13	2.82 (mid-year)
% Growth	<u>0.00%</u>	<u>22.20%</u>	<u>45.45%</u>	<u>24.22%</u>	<u>33.96%</u>	24.49% (mid-year)
Mobile Market Share	<u>13.01%</u>	<u>12.96%</u>	<u>13.76</u>	<u>16.76%</u>	<u>15.23%</u>	18.90%(mid-year)
Fixed Line Market Share	<u>99.14%</u>	<u>99.20%</u>	<u>99.25%</u>	<u>99.12%</u>	<u>99.19%</u>	98.25%(mid-year)

The secondary data from the company in Table 6.6 shows that the company was on course to achieve some of its strategic objectives. Most of the figures showed positive signs in 2010 mid-year assessment. In March 2009/2010 the company had a market share of 15.23% and ranked third on the mobile market. The target in 2013 was to achieve the second position on the mobile market share in Ghana.

- The case study company had its own applications that assist it in any phase of the organisation's long-term planning process. – Not verified
- The case study company had a plan that includes financial statements; covering income statement , cash flow statement and the balance sheet-Not verified
- The case study company did not use outside consultants to assist in long-term planning- Has a planning department.
- The case study company's long-term planning process emphasised both upwards and downward flow of information to business units. – Not verified.
- Information contained in the company's long-term plan was available only to staff, and therefore not made available to the public. – Data were kept from the public.
- According to management, the company's long-term plan specifically identified all the environmental factors listed on the semi-structured question. – Not verified
- The company had monthly variance analysis reports that showed differences between planned and actual performance -Verified
- The company prepared an annual budget;-Verified.

- Planning was centralised at Head Office. Apart from regional budgets and variance analysis reports, no long-term planning data was available at the regional offices for verification.
- The case study company has been in existence for more than ten years. In December, 1996 Ghana Telecom was split from Ghana Post and Telecoms (P &T) and officially made a company on February 20th, 1997.

**Table 6.7. DATA COLLECTION: THE LONG-TERM
PLANNING PROCESS**

Respondents	Score (Total score 30)	%	Classification of Long-Term Planning
H1	23	76.67	B
H2	23	76.67	B
H3	23	76.67	B
H4	21	70.00	B
H5	21	70.00	B
H6	21	70.00	B
H7	21	70.00	B
H8	21	70.00	B
H9	21	70.00	B
H10	21	70.00	B
H11	21	70.00	B
R1	15	50.00	A
R2	15	50.00	A
R3	15	50.00	A
R4	15	50.00	A
R5	15	50.00	A
R6	15	50.00	A
R7	15	50.00	A
R8	15	50.00	A
R9	15	50.00	A
R10	15	50.00	A
R11	15	50.00	A

Table 6.8. THE CLASSIFICATION OF THE LONG-TERM PLANNING PROCESS BY DECISION UNITS

CLASSIFICATION	RESPONDENTS
Class A	11
Class B	11
Class C	0
Total	22

6.2.3. DATA COLLECTION AND ANALYSIS: THE BUSINESS-LEVEL STRATEGY

6.2.3.1. . DATA COLLECTION

Although there are a number of strategy typologies and taxonomies in the strategic management literature, Miles and Snow's (1978) strategy typology has been accepted as a robust description of the behaviour of firms trying to adapt to their uncertain environment (Naceur et al., 2003).

Respondents were asked to select from the four types of organisations, the type which their company represented in the „adaptive cycle’. According to Miles and Snow (1978), three of these strategic types which they labelled the „Defender’, the „Analyzer’, and the „Prospector’ are stable forms of organisations. The organisation that chose to pursue one of these strategies, and designed the company accordingly will be an effective competitor in its particular industry over a considerable period of time. However, if management fails to pursue one of these „pure’

strategies, the organisation will be slow to respond to opportunities and is likely to be an ineffective performer in its industry.

According to Miles and Snow (1978) an organisation's strategy addressed three types of problems, which represent the dimensions of the 'adaptive cycle'. These three problems are the entrepreneurial problem which relates to how the company orients itself to the market place, the engineering problem relates to how the company's technical systems such as its technology and processes are employed to produce its products and services, the last problem refers to how an organisation attempts to coordinate and implement its strategies (structure, control and process issues).

The interviewer asked respondents to give reasons for the type of organisation they selected to address the three types of problems (entrepreneurial, engineering and administrative) of the 'adaptive cycle'

The questionnaire on Appendix B.4 on page 209 was used to assess the strategic behaviour of the case study company.

6.2.3.2. DATA ANALYSIS

Reasons given by respondents for selecting a particular organisation type:

Those who selected the Defender strategy

Solutions to problems offered by those who selected the Defender strategy.

Entrepreneurial problem- They argued that the company has a stable fixed network service market with a market share of about 98.25% in the year 2009 in Ghana. This must be maintained with cost-efficiency strategies.

Engineering problem- They argued that the company is currently replacing its old copper wires with fibre optic cables to achieve cost-effectiveness in deploying its technology in the fixed network service. The objective is to protect its dominance on the market.

Administrative problem- They argued that the procurement and inventory functions have been centralised to achieve cost- efficiency and savings.

Those who selected the Prospector strategy

Solutions to problems offered by those who selected the Prospector strategy.

Entrepreneurial problem- They argued that the company has achieved growth in market share since Vodafone acquired 70.00% equity in Ghana Telecom in 2008. Mobile market share in Ghana in 2009/2010 was 15.23% and in mid 2010 increased to 18.90%. Furthermore, they argued that, it has a broad range of products and these products have changed in response to technology and market demands. For example, it deployed BlackBerry mobile phones in Ghana on 3G technology in 2010. In addition, the company has the fastest consumer broadband service not only in Ghana but also in West Africa.

Engineering problem- They argued that the company has deployed multiple technologies in Ghana. For example, it has a robust fixed network technology making it a monopoly in Ghana. It owns SAT-3 submarine cable and therefore is a strong competitor in data and value added services in Ghana. Furthermore, it has the third largest mobile network in Ghana. In addition, it has a global leverage in research and development as well as technical skills from the Vodafone Group to support its infrastructural deployment plan now and in the future.

Administrative problem- They argued that the company in 2009 restructured and retrenched about 900 workers. It recruited highly skilled labour in the industry to drive its strategy of achieving cost-effectiveness. The focus of restructuring was to be more efficient to achieve the target of becoming (in the medium-term) the second largest mobile network service provider in Ghana by the year 2013.

Those who selected the Analyzer strategy

Solutions to problems offered by those who selected the Analyzer strategy.

Entrepreneurial problem- This group argued that although the company offers variety of services on the telecommunications market, the strategy is to stabilize the fixed network market, whilst in a planned manner penetrate the mobile market which it currently occupies as the third in the country.

Engineering problem- They argued that the company has multiple technologies in Ghana, however, the strategy is to replace old copper wires with fibre cables and stabilize the fixed network market which it currently has 98.25% in Ghana. The SAT-3 sub-marine cable has on the market new competitors from MainOne in Nigeria Ltd, GlobaCom in Nigeria and MTN from South Africa. The strategy is to protect and secure the current customers from these new competitors.

Administrative problem- They argued that the company is reorganising its departments as and when the market dictates. The right skills will be recruited at the right time to support the strategy of the company.

Secondary Data

Ghana Telecom Ltd. publication 26 October 2009 at www.vodafone.com.gh

“Vodafone Ghana today launched the fastest consumer broadband service in Ghana & West Africa with 6 new packages. High speed 4MB broadband is now available in certain areas of Accra and will continue to be rolled out to new areas over the coming months.

The speed is anywhere from 4 - 31 times faster than existing speeds available in Ghanaian homes. 4MB will allow super fast streaming/downloading of movies, internet browsing, video calls & instant music downloads. Installation has been reduced by 45% and free for 3 of the packages, as well as free Wi-Fi. Benjamin Kwadjo Dzreh, Vodafone’s broadband manager said, “This is a massive change for broadband users in Ghana, the speed and experience is incredible”.

The aforementioned publication supported the primary data collected which described the case study company as one of the market leaders in the Ghanaian telecommunications sector.

Table 6.9. The Classification of Strategy by Respondents

Organisation’s Strategy	Respondents	%
Defender	3	13.64
Prospector	13	59.09
Analyzer	6	27.27
Reactor	0	0.00
Total	22	100.00

Table 6.9 on page 145 shows that 13.64% of the respondents classified the organisation as the Defender, 59.09% of the respondents classified the organisation as the Prospector and 27.27% of the respondents classified the organisation as the analyzer. Nobody selected the Reactor strategy.

6.3. NONPARAMETRIC STATISTICAL TESTS.

Nonparametric statistical methods were used to test the following relationships:

- The association between the environmental state dimension and the level of the application of the long-term planning process in the case study company.
- The association between the environmental state dimension and the business strategy adapted by the case study company.

Proposition 2

Test of an association between the environmental state dimension and the level of the application of the long-term planning process in the case study company.

Hypotheses

H₀: There is no association between the environmental state dimension and the level of the application of the long-term planning process by the case study company.

HA: There is an association between the environmental state dimension and the level of the application of the long-term planning process by the case study company.

Reject H_0 at the 5% significance level

$$\chi^2 = \sum \frac{(\text{Observed} - \text{Expected})^2}{\text{Expected}} = 1.54 \text{ with } (2-1)(2-1) \text{ degrees of freedom}$$
$$\chi^2 = 1.54 \text{ with 1 degree of freedom}$$

Table 6.10. Chi-Square Calculation: Environmental State Dimension and the Level of the Application of the Long-term Planning Process

Observed Values: The Environmental State Dimension and the Level of the Application of the Long-term Planning Process in the case study company

	Class A	Class B	Total
Environmental Dimension	Long-term Planning	Long-term Planning	
Complex-Stable	1	0	1
Complex-Dynamic	10	11	21
Total	11	11	22

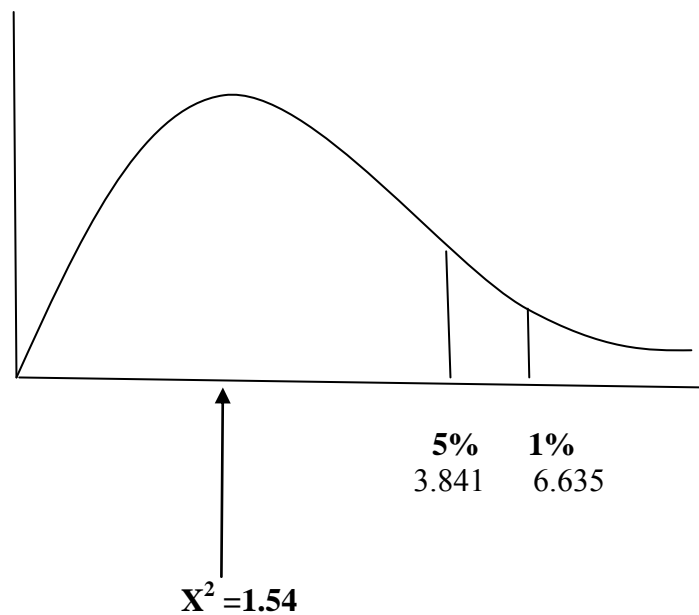
Expected Values: The Environmental State Dimension and the Level of the Application of Long-term Planning Process in the case study company

	Class A	Class B	Total
Environmental Dimension	Long-term Planning	Long-term Planning	
Complex-Stable	0.50	0.50	1
Complex-Dynamic	10.50	10.50	10
Total	11.00	11.00	22

Chi-Square Values: The Environmental State Dimension and the Level of the Application of Long-term Planning Process in the case study company

	Class A	Class B	Total
Environmental Dimension	Long-term Planning	Long-term Planning	
Complex -Stable	1.00	0.50	1.50
Complex-Dynamic	0.02	0.02	0.04
Total	1.02	0.52	1.54

Figure 6.2. CHI-SQUARE TEST: THE ASSOCIATION BETWEEN PERCEIVED UNCERTAINTY AND THE LEVEL OF LONG-TERM PLANNING.



The computed Chi-square value of 1.54 with 1 degrees of freedom in the Chi-square distribution table lies to the left of 3.84 at 5% significance level and is therefore in the region where $\chi^2 < 3.84$ where H_0 is accepted. The proposition that there is an association between the environmental state dimensions and the levels of the application of long-term planning process in the company is rejected.

Testing for an association between perceived uncertainty and the business-level strategy of the case study company

Hypotheses

H_0 : There is no association between the environmental state dimension and the business-level strategy of the case study company.

H_A : There is an association between the environmental state dimension and the business-level strategy of the case study company

Reject H_0 at the 5% significance level

$$\chi^2 = \sum \frac{(\text{Observed} - \text{Expected})^2}{\text{Expected}} = \text{with } (2-1)(3-1) \text{ degrees of freedom}$$

$$\chi^2 = 6.47 \text{ with 2 degrees of freedom}$$

Table 6.11. Chi-Square Calculations: Environmental State Dimension and the Business-level Strategy of the Case Study Company

Observed Values: The Environmental State Dimension and the Business-Level Strategy of the case study company

				Total
Environmental Dimension	Defender Strategy	Prospector Strategy	Analyzer Strategy	
Complex-Stable	1	0	0	1
Complex-Dynamic	2	13	6	21
Total	3	13	6	22

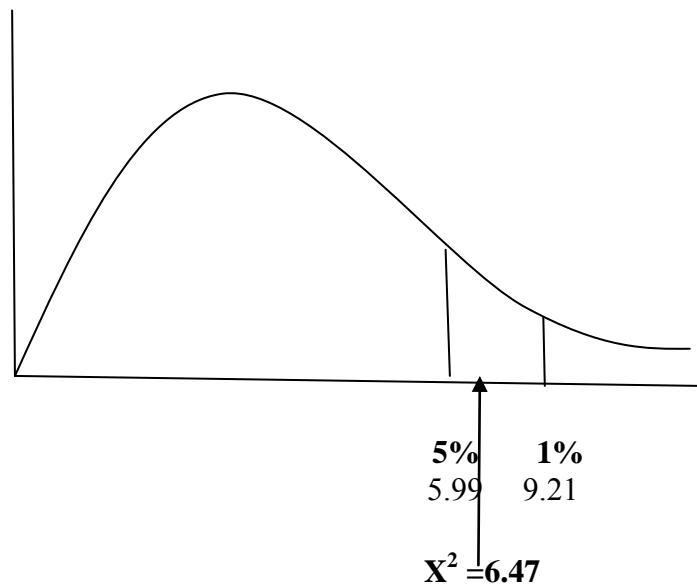
Expected Values: The Environmental State Dimension and the Business-Level Strategy of the case study company

				Total
Environmental Dimension	Defender Strategy	Prospector Strategy	Analyzer Strategy	
Complex-Stable	0.14	0.59	0.27	1.00
Complex-Dynamic	2.86	12.41	5.73	21.00
Total	3.00	13.00	6.00	22.00

Chi-Square Values: The Environmental State Dimension and Business-Level Strategy of the case study company

				Total
Environmental Dimension	Defender Strategy	Prospector Strategy	Analyzer Strategy	
Complex-Stable	5.28	0.59	0.27	6.14
Complex-Dynamic	0.29	0.03	0.01	0.33
Total	5.57	0.62	0.28	6.47

Figure 6.3. CHI-SQUARE TEST: THE ASSOCIATION BETWEEN PERCEIVED UNCERTAINTY AND THE BUSINESS-LEVEL STRATEGY OF THE CASE STUDY COMPANY



The computed Chi-square value of 6.47 with 2 degrees of freedom in the Chi-square distribution table lies to the right of 5.99 at 5% significance level and is therefore, in the region where $\chi^2 > 5.99$ where H_0 is rejected and H_A is accepted. The alternative hypothesis, that there is a significant association between the environmental state dimension and the business strategy of the case study company is accepted.

6.4. RESULTS OF THE STUDY

Data collection and analysis of this study was based on a single organisation in Ghana and therefore inter-organisational or inter-industry specifics were not considered and factored. However, the study examined the external environmental factors individually with respect to the level of importance of the factor in the strategic decision making process and also the unpredictability of the eight factors in the environment such that strategic decisions were subjected to periodic revisions in the light of changing market conditions. In spite of the limitations of carrying out a single case study, the 22 respondents provided different and interesting perspectives on each of the factors in the external environment in Ghana and therefore enriched the conclusions of the study.

Respondents rated the individual factor on a five-point Likert scale for importance, on a five-point Likert scale that the individual factor was stable or unstable and on a three-point Likert scale that the individual factor would be stable or unstable. The weighted average of the individual factor score was calculated to determine the characteristics of these factors in the telecommunications business environment in Ghana.

Table 6.5 on page 127, shows that the customer behaviour as a factor was ranked first by respondents as the most important factor in the

environment. However, the assessment of customer behaviour in terms of unpredictability was fourth indicating that respondents could predict the behaviour of customers in the sector. Further investigations established the reason why customer behaviour as a factor did not change as fast as some of the other factors. This was linked to socio-culture behaviour that was ranked last. It showed that attitude and behaviour change, but at a slower pace. The economy of the country was ranked second as the most important factor and ranked highest for unpredictability. The regulatory environment was ranked third as important in strategic decision making process and also ranked the third highest for unpredictability.

Combining the two assessments of importance and unpredictability and calculating their weighted average, this study concluded that the economy with 81.82%, customer behaviour with 72.73%, the regulatory environment with 65.91% and changes in technology with 65.91% from the respondents were identified as the most influential factors that affected strategic decisions in the telecommunications sector in Ghana from the years 2005 to 2009.

The results of the study were used to calculate statistical tests to test the following propositions:

- A high level of dynamism and complexity of factors in the external environment creates a high level of perceived uncertainty in an organisation.
- A high level of the application of the long-term planning process is directly related to a high level of perceived uncertainty in an organisation.

- In selecting the appropriate strategy to match the characteristics of the environment, an organisation will select the Prospector strategy if the environment is perceived as highly uncertain.

Proposition 1

First proposition predicted that where the management of an organisation perceived the factors in the external environment to exhibit unstable and complex characteristics, such an environment is conceptualised as highly uncertain.

Table 6.4 on page 126, shows that 4.55% perceived the external environment as complex and stable, and 95.45% perceived the external environment as complex and dynamic. Using Duncan's (1972) framework for determining environmental state dimension classifications, the case study company perceived the business environment in Ghana as highly uncertain.

The results of the study therefore supports proposition 1 that when an organisation describes its business environment as complex and dynamic, it perceives the environment as highly uncertain.

Proposition 2

The second proposition stated that a high level of the application of the long-term planning process is directly related to a high level of perceived uncertainty in an organisation.

Table 6.8.on page 141 shows the results of the assessment of the application of the long-term planning process in the organisation.

50% of respondents were classified as „B' and 50% were classified as „A". The basis for classifying the regional offices of the company as a class „A' was that the application of the long-term planning process was

centralised at Head Office with little activities at the regions.

At the Head Office, not all the processes in the long-term planning process were applied (lack of evidence to support upward and downward flow of planning information, emphasis was on short-term budgets and variance reports, objectives were subjected to periodic changes sometimes less than three years due to the turbulent nature of the environment) although the company had a written three-year plan with objectives there were no documentary evidence to indicate that this was implemented at the regional operational offices.

The interviewer therefore scored respondents from Head Office Class “B” instead of Class “C” that should have represented the achievement of a comprehensive application of the long-term planning process.

Chi-squared test was carried out to ascertain the association between the environmental state dimensions and the levels of the application of long-term planning process in the company. The test result was $X^2 = 1.54$ at 5% confidence level. This indicated that there was no association between the environmental state dimensions and the levels of the application of long-term planning process in the company. The finding did not support proposition 2 and showed that the high uncertainty perceived by the company was not related to the level of the application of long-term planning process in the organisation.

Proposition 3

The third proposition predicted that in selecting the appropriate business-level strategy to match the characteristics of the environment, an organisation will select the prospector strategy if the environment is perceived as highly uncertain.

In Table 6.9 on page 145, 13.64% of the respondents classified their organisation’s strategy as the Defender, 59.09% as the Prospector and

27.27% as the Analyzer. The Table 6.4.on page 126 shows the environmental state dimensions by respondents. 4.55% perceived the external environment as complex and stable, 95.45% perceived the environment as complex and dynamic. Literature review related the Defender to an organisation that operated efficiently in a stable environment, the Prospector to an organisation that operated well in an environment that offered the opportunities to create change and uncertainty and the Analyzer to an organisation that operated in two types of product-market domain, one relatively stable and the other changing. Proposition 3 therefore assessed the association between the two environmental state dimensions and the three organisational strategies.

Chi-squared test was carried out to ascertain the association between the environmental state dimension and the business strategy adapted to match the state of the environment. The test result was $X^2 = 6.47$ at 5% confidence level. This indicated a significant relation between the environmental state dimension and the business strategy selected by respondents. The finding supports proposition 3 and indicated that the level of perceived environmental uncertainty was related to the type of strategy adapted by the company. According to Miles and Snow (1978) “adaptive cycle”, the Defender organisation operates in a stable environment, the Prospector organisation operates in an unstable environment and the Analyzer organisation operates in an environment that was relatively stable. In summary, the case study company perceived the external business environment as highly uncertain and adapted the Prospector strategy to match this level of uncertainty.

6.5. CONCLUSION

Chapter 6 described in detail how data was collected and analysed. The chapter also tested the propositions developed at the literature synthesises stage in chapter 4.

The results of the study indicated that the most influential external environmental factors in the telecommunications sector in Ghana from the year 2005 to the year 2009 were the state of the economy, customer behaviour, regulatory environment and changes in technology.

The results of the study supported proposition 1 that where the factors in the environment are perceived as complex and dynamic, the environment is perceived as highly uncertain. 95.45% perceived the environment as complex-dynamic.

Propositions 2 and 3 were tested using chi-squared tests. The result from testing proposition 2 indicated that there was no association between the environmental state dimension and the levels of the application the long-term planning process in the company.

The results from testing proposition 3 indicated an association between the environmental state dimension and the business strategy adapted by the company.

The next chapter validates the results of the case study with a larger sample from sub-Saharan Africa, where Ghana is geographically located in order to improve the external validity of the research findings in sub-Saharan Africa.

CHAPTER 7

VALIDATION REPORT

7.1. INTRODUCTION

In Chapter 6 the study identified economic stability, customer behaviour, regulatory environment and changes in technology as the most influential factors that affected strategic decisions in the telecommunications sector in Ghana.

The main objective of this chapter is to validate the results from the case study with a larger sample from sub-Saharan Africa in order to improve its external validity.

Based on the results from the case study the following proposition was tested by the validation study:

- Customer behaviour, economic stability, regulatory environment and changes in technology are identified as the main external factors that cause uncertainties in the telecommunications business environment in sub-Saharan Africa.

7.2. RESEARCH METHODOLOGY FOR THE VALIDATION STUDY

7.2.1. DATA COLLECTION

A structured questionnaire was designed and used to collect quantitative data as part of the case study evidence. The validation study was carried out from May, 2010 to July 2010. From the „Year Book of Statistic’ published December 2009, by the International Telecommunication Union (ITU) sub-Saharan Africa has 43 countries providing

telecommunications services. All the 43 countries were contacted by telephone and 14 countries responded to the survey. From the 14 countries, 63 respondents participated in the study. A structured questionnaire was used to collect data. Data collection methods were self-administered structured questionnaire, telephone interviews and face-to-face interviews.

Saunders et al (2009, page 320) describe structured interviews as:

“ Structured interviews use questionnaires based on a predetermined and „standardised’ or identical set of questions ... You read out each question and then record the response on a standard schedule , usually pre-coded answers.”

These methods of data collection were selected because they provided quick responses and helped to reduce the rejection rate. The respondents were asked to determine how they perceived each factor listed on the questionnaire as either high or low in the telecommunications business environment in their country.

7.2.2. DATA ANALYSIS

In analysing the validation study, the quantitative method was used to achieve the following objectives:

- To find out the environmental factors that were frequently perceived as either high or low in the telecommunications sector in sub-Saharan Africa.

ANALYSIS OF VALIDATION DATA COLLECTED

Preposition 1: Economic, regulatory, customer and technology are identified as the most influential external factors in the telecommunications’ business environment across sub-Saharan Africa that cause uncertainty

Table 7. 1. THE ANALYSIS OF EXTERNAL ENVIRONMENTALFACTORS BY PERCEIVED UNCERTAINTY ACROSS SUB-SAHARAN AFRICA

ENVIRONMENTAL FACTORS	FREQUENCY OF RESPONSE	PERCENTAGE OF RESPONSE (%)
Competitor	32	32/63% = 50.79
Customer	47	47/63% = 74.60
Economic	42	42/63% = 66.67
International	12	12/63% = 19.05
Regulation	40	40/63% = 63.49
Socio-Culture	14	14/63% = 22.22
Supplier	17	17/63% = 26.98
Technology	34	34/63% = 53.97

Table 7.1.on page 161 shows that 74.60% of the respondents across sub-Saharan Africa perceived customer behaviour as the most significant external factor that causes uncertainty in the telecommunications environment. This was followed by the economy of the various countries in sub-Saharan Africa, 66.67% and the regulatory environment, 63.49%. Changes in technology and competitors in the sector as external environmental factors had more than 50.00% but less than 60.00% of the responses. Other factors such as the power of suppliers in the sector, the socio-culture behaviour and international issues were perceived as more stable and therefore had less than 50.00% of the responses.

**Table 7.2. COMPARISON BETWEEN THE CASE STUDY
COMPANY AND ACROSS SUB-SAHARAN AFRICA:
ENVIRONMENTAL FACTORS BY PERCEIVED
UNCERTAINTY**

SUB- SAHARAN AFRICA	% Frequency of Responses	CASE STUDY	% Frequency of Responses
Customer	74.60	Economy	81.82
Economic	66.67	Customer	72.73
Regulatory	63.49	Regulatory	65.91
Technology	53.97	Technology	65.91
Competitor	50.79	Competitor	50.09
Supplier	26.98	Socio-Culture	36.36
Socio-culture	22.22	International	31.82
International	19.05	Supplier	27.27

Table 7.2.on page 162 shows a comparative analysis of ranking of environmental factors by responses across sub-Saharan Africa and the case study in Ghana.

In order to conclude on the two sample data, a non-parametric test of goodness-of-fit was used to determine how well the observed set of data from the case study fits an expected set of data from sub-Saharan Africa (Mason et al,1999).

7.2.3. STATISTICAL TESTS

GOODNESS-OF-FIT TEST BETWEEN FREQUENCY OF RESPONSES FROM THE CASE STUDY AND ACROSS SUB-SAHARAN AFRICA: ENVIRONMENTAL FACTORS BY PERCEIVED UNCERTAINTY

The Chi-square test was used to examine if the observed perception of factors in the external environment from the case study differed from the expected perception of respondents across sub-Saharan Africa.

Table 7.3 CHI-SQUARE CALCULATION: TEST OF GOODNESS-FIT BETWEEN THE CASE STUDY AND SUB-SAHARAN AFRICA: ENVIRONMENTAL FACTORS BY PERCEIVED UNCERTAINTY

FACTOR	% FREQUENCY OF RESPONSES CASE STUDY IN GHANA (a)	f ₀ Observed (a/Σa x %)	% FREQUENCY OF RESPONSES SUB-REGION OF AFRICA (b)	f _e Expected (b/Σb x %)
Customer	81.82	18.94	74.60	19.75
Economic	72.73	16.84	66.67	17.65
Regulatory	65.91	15.26	63.49	16.81
Technology	65.91	15.26	53.97	14.29
Competitor	50.09	11.60	50.79	13.44
Supplier	36.36	8.42	26.98	7.14
Socio-culture	31.82	7.37	22.22	5.88
International	27.27	6.31	19.05	5.04
	431.90	100.00	377.77	100.00

Hypothesis:

H₀: There is no difference between the responses across sub-Saharan Africa.

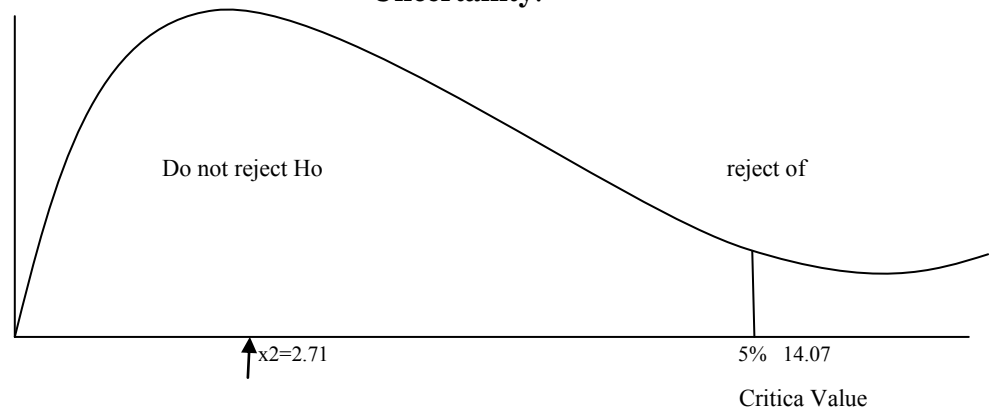
and the responses from the case study by perceived uncertainty.

Ha: There is a difference between the responses across sub-Saharan Africa.

and the responses from the case study by perceived uncertainty.

At degree of freedom $df = 8 - 1 = 7$, the critical Chi-square value at 5% level of significance is 14.07. The decision rule is to reject H_0 if $\chi^2 > 14.07$

Figure 7.1. Chi-Square Test: Goodness-Fit-Test: The Responses across Sub-Saharan Africa and the Case Study by Perceived Uncertainty.



Chi-square Workings

	Case Study		Sub-Saharan Africa				(f0 - fe) ²
	Ghana	f0		Fe	f0 - fe	(f0 - fe) ²	Fe
Customer	74.60	19.75	72.73	16.84	-2.91	8.46	0.50
Economic	66.67	17.65	81.82	18.94	1.30	1.68	0.09
Regulatory	63.49	16.81	65.91	15.26	1.55	2.39	0.16
Technology	53.97	14.29	65.91	15.26	0.97	0.95	0.06
Competitor	50.79	13.44	50.09	11.60	1.85	3.41	0.29
Supplier	26.98	7.14	36.36	6.31	-0.83	0.69	0.11
socio-culture	22.22	5.88	31.82	8.42	2.54	6.43	0.76
International	19.05	5.04	27.27	7.37	2.32	5.40	0.73
	377.77	100.00	659.46	100.00	0.00		2.71

The computed value of Chi-Square (2.71) df 7 lies to the left of 14.07 at 5% significance level and is therefore in the region where **H₀** cannot be rejected. By accepting the null hypothesis, there is no difference between the perception of respondents across sub-Saharan Africa and the perception of respondents from the Case-Study .

From the Chi-square test, it was concluded that the respondents across sub-Saharan Africa including Ghana had a similar perception of the eight external environmental factors. The study concluded that customer behaviour , economic instability and regulatory environment in sub-Saharan Africa were the most influential factors that affected strategic decisions in the telecommunications sector in sub-Saharan Africa. The explanation offered for the three highest rated factors across sub-Saharan Africa were:

- The customer is the key factor that keeps the business going. With high competition in mobile services, the customer is now sensitive to prices, to quality of service and to new services etc . A change in any or all of these elements affects market share and profitability of the market

players. According to ITU the tele-density ratio in Africa is the lowest in the world. This makes Sub-Saharan Africa a potential area for telecommunications investment. The growth in customer base is the main strategy of all the telecommunications companies and therefore perceived as the most important factor in the environment.

- In sub-Saharan Africa, the economy of most countries depends on primary commodities which are seasonal and subjected to unstable market prices. In Africa, double digits inflation rate is common and this affects cost of operation and profitability. The telecommunications companies there see the stability of the economy a key factor that affects growth. This means that the economic stability of sub-Saharan Africa is vital for the growth of the telecommunications sector.
- Most countries in sub-Saharan Africa are still going through economic, technological and political reforms. This makes sub-Saharan Africa a grey area to invest. The consequence is the periodic changes in legislations and regulations to reform the sector. The telecommunications sector across sub-Saharan Africa is therefore perceived as still developing and therefore yet to experience a stable legal and regulatory environment.

7.3. RESULTS: VALIDATION STUDY.

.Data collected and tested across sub-Saharan Africa produced the following results:

- The assessment of the eight external environmental factors by perceived uncertainty produced the following results: customer behaviour 74.60%, economic instability 66.67% and unstable regulatory environment 63.49% from the responses. The case study results ranked the economy as first with 81.82%, the customer as second with 72.73%

and the regulatory environment and changes in technology as third each with 65.91% from the responses.

Comparing the results from the two samples, this study observed that the most significant external environmental factors that affected strategy in sub-Saharan Africa were customer behaviour, economic instability and unstable regulatory environment.

7.4. CONCLUSION

This chapter validated the results from the case study with a larger sample of 63 respondents across sub-Saharan Africa. One proposition from the case study was suggested and validated. The research strategy was to collect quantitative data with a larger sample so that the appropriate statistical tests could be performed to test the results from the case study.

The results from the statistical test indicated that the perceptions of respondents from both the case study and across sub-Saharan Africa were not different and that the most significant external environmental factors that affected strategy in sub-Saharan Africa were customer behaviour, economic instability and unstable regulatory environment.

The validation study helped to reduce the level of the limitation of this case study and further improved the external validity of the research findings across sub-Saharan Africa.

The next chapter discusses the findings, the conclusions, the limitations, the implications of the study and suggests areas that should attract future research attention in sub-Saharan Africa.

CHAPTER 8

DISCUSSIONS AND CONCLUSIONS

8.1. INTRODUCTION

This thesis reviewed the literature on the relationship between environmental uncertainty and business strategy and observed that most of the studies were based on countries from developed economies (Kim and Lim, 1988; Lukas, Tan and Hult, 2001; Gao et al. 2006).

Based on the research gap identified, the study defined the research question, aim and objectives to address the research gap.

In answering the research question, the study applied the qualitative research methodology to collect and analyse data using a case study. The study utilised both primary and secondary data which enabled its findings to be triangulated. In addition, the results of the case study were validated by using a larger sample from sub-Saharan Africa. The validation study helped to reduce the limitation of conducting the case study and also helped to improve the external validity of the results in sub-Saharan Africa.

This chapter summarises the research findings and concludes the study. Furthermore, the chapter discusses the implications of the research, its limitations and offers recommendations in areas that should attract future research attention.

8.2. SUMMARY OF THE RESULTS

The study investigated three main propositions suggested at the literature synthesis stage in Chapter 4. These were:

A high level of dynamism and complexity of factors in the external environment creates a high level of perceived uncertainty in an organisation.

A high level of the application of the long-term planning process is directly related to a high level of perceived uncertainty in an organisation.

In selecting the appropriate strategy to match the characteristics of the environment, an organisation will select the Prospector strategy if the environment is perceived as highly uncertain.

Proposition 1: The analysis of data showed that 4.55% of the respondents perceived the environment as complex-stable and 95.45% of the respondents perceived the environment as complex-dynamic. A score of 95.45% was significant enough to conclude that respondents perceived the telecommunications business environment in Ghana as highly uncertain. This conclusion supported the proposition that a high level of dynamism and complexity of factors in the external environment creates a high level of perceived uncertainty in an organisation.

Proposition 2: The results from the assessment of the application of the long-term planning process indicated that the perceived environmental uncertainty was not related to the level of the application of the long-term planning process in the organisation. The finding therefore did not support proposition 2 but concluded that the long-term planning process of the company was limited.

Proposition 3: The results from study indicated that there was an association between the perceived environmental uncertainty and the business-level strategy adapted by the organisation to match the characteristics of the environment. 59.09% of the respondents selected

the Prospector strategic behaviour for the company. This score was significant enough to classify the case study company as a Prospector organisation. The company adapted to this strategy to manage the uncertainties perceived in the environment. The result supports proposition 3 which states that, in selecting the appropriate strategy to match the characteristics of the environment, an organisation will select the Prospector business-level strategy if the environment is perceived as highly uncertain.

8.3. DISCUSSION OF THE RESULTS

The external environment has an effect on the strategic behaviour of organisations (Porter, 1980; Miles and Snow, 1978).

The purpose of this thesis is to examine the environmental uncertainty in the telecommunications sector in Ghana and the business-level strategy pursued by an organisation to effectively compete in such an environment.

The research gathered data and accomplished four outcomes:

- Ascertained the most influential environmental factors that affected the strategic decisions in the telecommunications sector in sub-Saharan Africa.
- Determined the state of the business environment in the telecommunications sector in Ghana.
- Examined the level application of the long-term planning process in the case study company and
- Determined the business-level strategy adapted to match the characteristics of the environment in the telecommunications sector in Ghana.

The Most Influential Environmental Factors in the Telecommunications Sector in sub-Saharan Africa

This study examined the perceptions of 22 managers based on the eight external environmental factors identified during the literature review stage in Chapter 2 (Duncan, 1970; Daft, 2004; Dill, 1958).

Respondents from the case study perceived four of the eight factors in the environment as highly uncertain and ranked economy first (81.82%), customer behaviour second (72.73) %, both the regulatory environment (65.91%) and changes in technology (65.91%) third as the most influential factors that caused uncertainties in the telecommunications sector in Ghana. The validation study across sub-Saharan Africa showed similar results with the ranking of customer behaviour first (74.60%) followed by the economy second (66.67%) and the regulatory environment third (63.49%) as the most significant factors that caused uncertainty in sub-Saharan Africa. Comparing the two results, it was concluded that customer behaviour, the economy and the regulatory environment in sub-Saharan Africa were the most significant external environmental factors that investors should consider when examining the telecommunications business environment in sub-Saharan Africa. The finding reinforces the research by Sawyerr (1993) in Nigeria, a developing country in sub-Saharan Africa. Sawyerr (1993) scanned the business environment in Nigeria and conclude that Nigerian executive perceived a higher level of uncertainty in those sectors that have a direct impact on their firms' operations. Sawyerr identified customer/market, economic and political/legal as the main factors that caused uncertainties in Nigeria's business environment. Secondly, the finding reinforces Hennisz and Zelner (2010) article on hidden risks in emerging markets such as sub-Saharan Africa where institutional structures like the courts

are said to be weak to enforce laws, regulations and contracts, thus creating uncertainty in the environment.

The State of the Telecommunications Business Environment in Ghana

The results from the examination of the telecommunications business environment showed that 95.45% of the respondents perceived the environment as complex and dynamic in Ghana. According to Naceur et al. (2003) the high level of perceived makes it difficult for organisations to predict the environment and develop plausible strategic decisions. The results of the study supported Tan and Litschert (1994) who concluded that economic reforms, open-door policy and regulatory environment in developing countries made firms to perceive the environment to be more complex and dynamic than before.

The Application of the Long-Term Planning Process

This study examined how the case study company applied the long-term planning process in relation to the level of perceived uncertainty in the business environment.

From the primary and the secondary data collected, it was found that the case study company had a written long-range plan at Head Office covering 3 years; the case study company had a vision and developed key strategic objectives which were pursued from 2010 to the year 2013. These objectives covered quantified objectives such as earnings, sales growth, return on investment, and quality of service. However, the assessment showed that the application of its long-term planning process was limited because not all the responses were supported with documentary evidence. Instead the company produced evidence to support annual budgets. Regional offices were also able to produce

budgets to support regional operations such as sales and marketing, and emphasised that activities such as procurement and maintenance of operational equipment were centralised at head office.

Chi-squared test was carried out to ascertain the association between perceived uncertainty and the level of the application of the long-term planning process in the case study company. The test result was $X^2 = 1.54$ at 5% confidence level indicated that there was no association between perceived uncertainty and the level of the application of the long-term planning process in the case study company. The finding did not support proposition 2, but the study observed that the case study company rather employed short-term planning process to implement its strategic decisions because of the turbulent nature of the telecommunications business environment in sub-Saharan Africa. The finding of the study supports the contrary argument on long-term planning (Boulton et al. 1982; Javidan, 1984; Grant, 2003) which suggests that strategic planning activities have changed substantially over the past two decades in response to challenges in the weakness in strategic planning process in turbulent and unpredictable environments. In such environments strategic decisions have become shorter-term, less specific and more goal-focused.

Business-Level Strategy

Business-Level is closely linked to environmental uncertainty (Naceur et al., 2003). Miles and Snow (1978) provided an explanation for the alternative forms of adaptive behaviour which existed in organisations. They suggested described four types of organisations which represented the alternative ways of moving through the adaptive cycle (the Defender, the Analyser, the Prospector and the Reactor). If an organisation chooses to pursue one of first three strategies with the exception of the Reactor

strategy, and designs the organisation accordingly, then the organisation is expected to be an effective competitor in its industry over a considerable period of time.

Data collected and analysed showed that 59.09% of the respondents classified the organisation as the Prospector. The arguments from the interviewees to support this strategy were: The Company did not concentrate its operations in one business area in 2009 but sought for other opportunities especially corporate customers for its fixed net-work services. It also instituted promotional measures and increased its mobile market share from 15.23% in 2009 to 18.90% in mid-year of 2010. Furthermore, they argued that the company introduced a broad range of products and these products were periodically changed in response to changes in technology and market demands. An example was the deployment of BlackBerry mobile phones on 3G technology in 2010. Furthermore, the company has the fastest consumer broadband service not only in Ghana but also in West Africa. Respondents argued that the company use multiple technologies (fibre, cable, wireless, satellite) in Ghana. For example, it has a robust fixed network technology making it a monopoly in Ghana. It owns SAT-3 sub-marine cable and therefore is a strong competitor in data and value added services in Ghana and has the third largest mobile network in Ghana. Their strategy was supported by its global leverage in research and development as well as the technical skills from the Vodafone Group. The results from the study support Conant et al. (1990) who argued that competency dimension appears to differentiate the Defender, Analyzer, and the Prospector strategic types the most, and this was the “new service development”.

Chi-squared test was carried out to ascertain the association between perceived uncertainty and the business-level strategy selected by the case study company to compete in the telecommunications business

environment. The test result was $X^2 = 6.47$ at 5% confidence level. This indicated a significant relation between perceived uncertainty and the business-level strategy selected to manage the dynamic nature of the environment.

8.4. THE CONCLUSION OF THE STUDY

From the research findings and the results of the validation study in sub-Saharan Africa, this study concluded that:

- Customer behaviour, economy instability and regulatory environment were identified as the most influential factors that affected strategy in the telecommunications business environment in sub-Saharan Africa.
- The case study company perceived the external environmental factors in the telecommunications business environment in Ghana as complex and dynamic; hence perceived the environment as highly uncertain.
- The application of the long-term planning process in the case study company was found not to be comprehensive, but limited and therefore did not support the proposition that organisations that perceived the environment as highly uncertain adopt long-term planning process in response to the characteristics of the environment.
- The case study company selected the Prospector strategy in response to manage the high level of perceived uncertainty in the business environment in the telecommunications sector.

8.5. THE LIMITATIONS OF THE STUDY

This study was not without its limitations. The following were identified as the limitations of the study:

This study may be objected to as being non-scientific, being based on subjective and qualitative appraisal (Yin, 2003; Saunders et al, 2009). However, by applying a systematic and structured approach to the problems identified in the study a basis for analysing these problems was developed. For example, by requesting for reasons why some factors were perceived as high and why other factors were perceived as low in the environment, the researcher was better placed to analyse why some factors were perceived as complex and dynamic and why some factors were perceived as simple and stable. Despite this limitation, the findings of this study provided insights into the relationship between perceived uncertainty and the selection of business-level strategy in sub-Saharan Africa, particularly in the telecommunications industry.

Furthermore, this study was limited to a single case study and therefore the generalisation of its findings was limited (Yin, 2003). To mitigate this limitation, the study first conducted a pilot study using a different organisation from the same telecommunications sector and thereby tested the methodology used for the main study. By so doing construct validity and reliability of data were achieved. Furthermore, the results of the study were validated with a larger sample from sub-Saharan Africa, where Ghana is geographically located and most of the countries had similar external environmental conditions. The validation study therefore provided the reliability test required to draw conclusions from the study.

The study was a qualitative case study and therefore inherited the limitations of conducting qualitative case studies (for example, data not well formulated and therefore difficult to replicate). However the study adopted the necessary procedures required to analyse qualitative data to draw conclusions.

This study used the self-typing method to collect data from the case study company. The self-typing method is criticised as not being an objective method of collecting data but subjective, because managers could provide data on intended strategy and not realised strategy (Snow and Hambrick, 1980). However, this measurement approach has been used and validated extensively in prior studies by researchers such as Tan et al. (2006); Slater and Olson (2000); James and Hatten (1995); Shortell and Zajac (1990); Segev (1989). For example, Tan et al. (2006) used this method of assessment to evaluate the application of Miles and Snow's (1978) business-level strategic typology in the Chinese electronic industry. Also James and Hatten (1995) carried out a study that validated the self-typing method as a reliable data collection method to assess Miles and Snow's (1978) business-level strategic typology.

The study employed in-depth interviews to collect data. This method is criticised as a potential for reactive responses by interviewees because of the possibility of respondents trying to give answers that would place their organisation as unique in the sector. However, the interviewer tried to mitigate this limitation by collecting information from more than one person in the company and corroborating the primary data collected with secondary evidence.

8.6. THE CONTRIBUTION TO THE KNOWLEDGE BASE

This thesis contributes to the literature on environmental uncertainty and business-level strategy and addresses the research gap in sub-Saharan Africa in the following ways:

1. The most influential external environmental factors that affect strategic decision in sub-Saharan Africa:

Records from ITU „Year Book of Statistics’ published in December, 2009 indicates that sub-Saharan Africa has in the past ten years experienced the fastest growth in telecommunications (15million subscribers in 2001 to 334 million subscribers in 2009). However, this figure represents a third of the continent’s population, indicating that sub-Saharan Africa has the lowest teledensity ratio in the world. The in-depth interviews produced the following reasons that helped to explain why managers over the years have not been able to increase the low ratio of telephone usage in sub-Saharan Africa.

- i. Customer behaviour- Although mobile technology has helped sub-Saharan Africa to increase its telephone usage, the study observed that demand for new products and services in the sector were found to be stagnant. Reasons given were the low income levels, high unemployment rate due to economic instability, and the concentration of customers in the big cities on the continent where employment opportunities are high; with less penetration of services to the rural areas where according to World Bank report more than 73% of the population on the continent live.

(www.who.int/water_sanitation_health/monitoring).

From the study, the strategy to penetrate the rural communities without subsidies and access funds has always

met challenges.

The next observation from the study was the poor quality of service due to congestions on the networks(www.nca.org.gh). This situation has affected the behaviour of customers. The poor quality of service has made a sizable proportion of customers, mostly the middle income group, use more than one mobile phone to make intra network (on the same network) calls (i.e. from MTN to MTN, Vodafone to Vodafone and TiGo to TiGo). The effect was that the same customer group subscribe on the other networks, thus giving inaccurate figures for the growth in customer population in sub-Saharan Africa. Furthermore, it was observed from the study that most customers in the rural communities preferred to text or „flash’ family members in the cities for them to call them instead of initiating calls and paying more.

The significance of this factor is that customer behaviour in the telecommunications sector in sub-Saharan Africa differs from the customer in the advanced economies. The application of advanced marketing techniques such as the internet, electronic and print media will be not effective in sub-Saharan Africa if implemented without considering the reasons given above.

- ii. Economic instability- It was observed from the study that economic instability posed challenges to network operators in sub-Saharan Africa. Primary and secondary data showed that sub-Saharan Africa economies rely mostly on primary commodities (cocoa, tea, coffee, fruits, flowers, palm products etc) which are subjected to the conditions of the weather. A good rainfall means bumper harvest and low

prices on the world market; similarly severe dry weather means poor harvest, high prices but low revenue as demand outstrips the supply of these primary commodities. The effect was low income in most sub-Saharan Africa countries leading to low savings, resulting in a cash economy.

Operating in such an economy made it difficult for network operators to institute an effective monthly credit system as operated in advanced economies that guaranteed them a steady income through contracts.

The significance of this factor is that long-term cash flow planning in sub-Saharan Africa has a higher level of uncertainty than the advanced economies due to the unstable income from customers, low savings from the society, low customer loyalty due to poor quality of service and the difficulty in implementing contracts with customers.

- iii. Regulatory environment- It was observed from the study that most countries in sub-Saharan Africa in the early 1990s had a closed economy where telecommunications companies were monopolies and revenues from these companies served as other income to supplement the low government revenues from taxes. Governments achieved this by fixing tariffs that made inefficient telecom monopolies earn abnormal profits. Although the telecommunications sector in most African countries were liberalised in the 1990s, various governments in the sub-Saharan Africa have not fully deregulated the sector but have partly privatised incumbent network operators to ensure their continuous influence in the sector. With the

interest in the sector as a revenue generating industry, governments in sub-Saharan Africa now use regulation/law to control the sector. For example, Ghana passed Communications Service Tax and set a price cap on incoming international calls to Ghana so that 30% of the international revenue from network operators was paid to the government.

The significance of this factor is that the periodic use of regulatory instruments in the telecommunications sector in sub-Saharan Africa has made the business environment unstable for effective long-term strategic decisions.

2. The environmental state dimension of the telecommunications sector in sub-Saharan-Africa.

This study developed propositions from the critical literature review and used a case-study from sub-Saharan Africa to test the perceptions of managers when they described the factors in the environment simple or complex and as either stable or dynamic. From the study, three external environmental factors out of the eight factors listed from the critical literature review were identified as the most influential factors in the external environment that caused perceived uncertainty in the environment. The study confirmed previous studies (Duncan, 1972; Milliken, 1987; Draft, 2004; Kourteli, (2005) that when a decision unit in an organisation perceives any or all of the factors in the environment to be complex and dynamic, it perceives the environment as high uncertainty.

The significance of the results is the impact that the three most influential external environmental factors (customer behaviour, economic instability

and regulatory environment) had on the environmental state dimension of the telecommunications sector and the effect on strategic decisions.

3. The assessment of long-term planning process in the case study company.

One of the objectives of this study was to find out the level of the application of the long-term planning in the case study company. The results from the study show that the level of the application of the long-term planning process was low even though managers perceived the environment as highly uncertain. The results of the study did not confirm proposition 2 that an organisation operating in a turbulent environment will apply a comprehensive long-term planning process. However, a critical analysis of the reasons why the company did not apply a comprehensive long-term planning process supports other contrary arguments (Javidan, 1984; Boulton et al. 1982; Grant, 2003) on long-term planning. These researchers argued that although long-term planning continues to play central role in managing organisations, strategic planning has changed substantially over the past two decades in response to turbulent and unpredictable environmental characteristics. According to these researchers, planning has now become less staff-driven, more informal, short-term, more goal-focused and less specific with regard to resource allocations.

The significance of this study is that decision units in a turbulent environment such as sub-Saharan Africa find it difficult to implement long-term planning process and instead focused more on informal planning and short-term objectives.

4. The Business- level strategy of the case study company.

The study developed a proposition from the critical literature review using a case study to test the strategic response of an organisation in sub-Saharan Africa to environmental shift. Research by Zajac and Shortell (1987) assessing Miles and Snow (1978) strategies concluded that organisations change their strategies in response to environmental shifts. Desarbo et al. (2005) revisited Miles and Snow (1978) to assess the interrelations between strategy types, capabilities, environmental uncertainty and firm performance in three different countries: USA, Japan and China with different cultural backgrounds. Desarbo et al. (2005) concluded that managers in these countries with different culture background and management style strategically behave the same in response to environmental shift. The results of this study supported the proposition 3 which suggests that managers will respond to a turbulent environment with a strategy that will enable them to adapt quickly to environmental uncertainties.

The finding is significant in two ways. First it supports the results of proposition 2 which showed that the case study company in an unpredictable environment adopted informal planning which was short-term to respond quickly to environmental shifts. Secondly, the result is significant by contributing to the debate in the literature that the strategic response to the perception of the environment by managers in sub-Saharan Africa operating in different cultural backgrounds are not different from managers in USA, Japan and China.

8.7. IMPLICATIONS OF THE STUDY

This thesis produces lessons for policy makers, regulatory agencies in the sector, the business community, investors, managers and academia in the following areas:

- The most influential external environmental factors that affect strategic decision in sub-Saharan Africa:

Customer behaviour, economic instability and regulatory environment were identified as the most influential factors in telecommunications section.

i. Customer behaviour-

The poor quality of service due to congestions on the networks was identified as one of the reasons why customer behaviour influenced strategy.

This study suggest that a programme spread over a period to invest more in infrastructure to replace obsolete equipment with modern equipment to improve quality of service will help to maintain the loyalty of customers on networks. This would improve the long-term revenue of network operators in sub-Saharan Africa

ii. Economic instability-

Macro-economic factors in sub-Saharan Africa indicate low income and low savings, resulting in a economy cash economy. Credit ratings are low to offer attractive business deals.

This study suggests that in other to attract network operators to the rural communities in sub-Saharan Africa, policy makers and regulatory agencies

should implement an effective universal access fund that would motivate telecommunications companies to roll out their networks faster to the underserved areas. Secondly, the study suggests that managers in the sector should implement a special tariff (price discrimination) for calls initiated from the rural areas to increase the airtime in such areas. This could have the long-term benefit of increasing the revenue of network operators in sub-Saharan Africa.

iv. Regulatory environment-

Governments in sub-Saharan Africa continue to rely on the telecommunications sector for revenue to balance budget deficits and therefore periodically use regulatory and legal instruments to achieve this objective.

This study suggests that the regular and indiscriminate use of regulatory and legal instruments in the sector without consulting stakeholders could cause high uncertainties and reduce foreign investors' confidence.

The examination of these factors in the telecommunications business environment by policy makers, regulators, managers and academia could help to improve investment opportunities, employment and the growth of the telecommunications sector in sub-Saharan Africa in line with technological developments.

- The environmental state dimension of the telecommunications sector in sub-Saharan-Africa.

From the study, the telecommunication's business environment in sub-Saharan African was found to be highly uncertain. The implication of this finding is that stakeholders need to work together to reduce the level of perceived uncertainty in the environment in order to attract the needed investments required to modernise the sector in line with developments found in other parts of the world.

- Long-term planning.

From the results of the study, long-term planning in the telecommunications sector in sub-Saharan Africa will continue to be informal, short-term and focused on short-term objectives till the sector becomes reasonable stable. The implication is that long-term objectives could be sacrificed for short-term goals which in the long-term may cause the sector to deteriorate in terms of infrastructure developments, quality of service etc, reducing the profitability of the industry to contribute to the economic growth in sub-Saharan Africa.

8.8. THE RECOMMENDATIONS FOR FUTURE RESEARCH

This study addressed the research gap identified in strategic management and organisational behaviour literature on sub-Saharan Africa. Further research in this area should investigate the strategy–environment relationship in other industries and in other countries in sub-Saharan Africa. It also suggested that a study should be carried out in sub-Saharan Africa to assess how business strategy should be properly decentralised for effective implementation. A final area that this study suggested was a comparative study of the regulatory/legal systems in the telecommunications sector in sub-Saharan African and the effect on

strategy. Such a study would help to harmonise policy issues to promote the growth and development of the telecommunications infrastructure needed for economic development on the continent.

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APPENDICES

APPENDIX: A.

FUNCTIONAL AREAS AND RESPONSIBILITIES OF RESPONDENTS

Functional Area/Department	Responsibilities
Technology	Member of the Executive management Team and Head of Technology. Responsible for strategy, planning, design and implementing both fixed , mobile and broadband networks
Finance	Manager, accounting activities that support business units
Marketing	Manager, Consumer mobile
External Affairs	Manager, legal and media affairs of the company
Enterprise	Manager, enterprise sales and product development
Corporate Affairs	Manager, business/economic analysis, advocacy, advisory
Marketing	Manager Consumer fix-
Supply Chain	Manager procurement and logistics
Marketing	Manager, Consumer mobile-
IT	Manager, Design and planning of IT infrastructure to support operations
Strategy and Brand	Manager, corporate websites
11 Regional Managers	In-Charge of Regional Operations-Accra, Tema, Eastern, Volta, Ashanti, Brong Ahafo, Western, Central, Northern. Upper East and Upper West

APPENDIX: B

SEMI-STRUCTURED QUESTIONNAIRES

Appendix: B.1.

INTERVIEW THEMES

1. The role of the interviewee held within the company
2. Current long-terms planning process of the company.
3. Interviewees' perceptions of the importance, the predictability and the extent of change in the sectors of the external business environment of the company.

APPENDIX: B.2.

Assessment of the Environmental Uncertainty

This part of the interview is concerned with how you monitor and learn about things in your company's external environment. By external environment, we mean all the factors and phenomena that exist outside your company but which must be considered as key to your company's decision making process. The external environment can be divided into the following eight factors:

FACTORS

ELEMENTS

1. CUSTOMERS [a. Retailers b. Wholesalers c. Consumers]
2. SUPPLIERS [a. Equipment suppliers b. Parts suppliers]
3. COMPETITORS [a. Competitors for suppliers b. Competitors for customers]
4. ECONOMIC [a. market b. Interest rate c. Economic growth]
5. SOCIO-CULTURE [a. Relations with trade union b. Social values c. Work ethics d. Demography]
6. INTERNATIONAL [a World Economy b. Exchange rate c. Imports]
7. REGULATORY [a. Government regulatory controls b. Political attitude towards the industry and its services]
8. TECHNOLOGY [a. New technology requirement in the industry b. Improving and developing new services.]

(i) From the list of each sector above, **how many** elements within each factor, either alone or in combinations with elements in other factors do **you need to deal with** in your decision making process.

(ii) From the list of factors above, to what extent do you think these factors have become more important in your strategic decision making? Please in considering these factors from above, list them as: very often; frequently; sometimes; almost never; and never

(iii) From the list of factors above, which of these factors do you perceive will dramatically change within the next five years? Please in considering these factors, list them as: Very often; frequently; sometimes; almost never; and never

(iv) From the list of factors provided above, which factor or factors have you observed to have much changed in the last five years? Please in considering these factors list them as:

dramatic change; about middle; little change.

APPENDIX: B.3.

(2) Semi-Structure Questionnaire: The Long-Term Planning Process.

These questions are aimed at assessing the planning process in your organization.

1. Does your company prepare a written long-range plan covering at least three years?
 - a. If so, what time period does it cover?
 - b. How long has your company prepared a long-range plan (years)?
2. Who is responsible for the long-range planning of your firm (corporate level)?
3. Your long-range plan includes quantified objectives for which of the following (financial criteria such as earnings, ROI, etc.)?
4. Does your firm employ, on a regular basis, the use of a mathematical model or the computer in any phase of your long-range planning process?
5. Does your long-range plan include one or more pro-forma financial statements?
6. Your long-range plan includes plans and budgets for which of the following (human resources, product development, corporate expansion, etc.)?
7. Does your firm employ the use of outside consultants to assist in the long-range planning process? If so, what is the primary source of consultants?
8. Does your long-range planning process emphasize: a. upward flow of information b. downward flow of information
9. Is information contained in your long-range plan: a. available only to management b. available to the public?
10. Does your long-range plan attempts to specifically identify which of the following factors (social, economic, and political trends and attitude changes)?
11. Does your long-range plan contain procedures for anticipating or detecting differences between your plan and actual performance and for preventing or correcting these differences? If yes, how frequently is this done?
12. Does your firm prepare formal monthly, short-range budgets including performance reviews for each cost or profit centre in the firm?

APPENDIX: B.4.

Structured Questionnaire: **DEFINING BUSINESS-LEVEL STRATEGY**

Listed below are four primary strategies utilized by companies. Each of these strategies is neither better nor worse than another. **SELECT ONE** that best describes your firm's strategy and give reasons why this strategy best describes your company' strategy:

1. This type of firm attempts to locate and maintain a secure niche in a relatively stable product or service area. The firm tends to offer a more limited range of products or services than its competitors, and it tries to protect its domain by offering higher quality, superior service, lower prices and so forth. Often this type of firm is not at the forefront of developments in the industry--it tends to ignore industry changes that have no direct influence on current areas of operation and concentrates instead on doing the best job possible in a limited area.
2. This type of firm typically operates within a broad product-market domain that undergoes periodic redefinition. The firm values being "first in" in new product and market areas even if not all of these efforts prove to be highly profitable. The firm responds rapidly to early signals concerning areas of opportunity, and these responses often lead to a new round of competitive actions. However, this type of firm may not maintain market strength in all of the areas it enters.
3. This type of firm attempts to maintain a stable, limited line of products/ services, while at the same time moving out quickly to follow a carefully selected set of the more promising new developments in the industry. The firm is seldom "first in" with new products/services. However, by carefully monitoring the actions of major competitors in areas compatible with its stable product-market base, the firm can frequently be "second in" with more cost-efficient product/services.
4. This type of firm does not appear to have a consistent product-market orientation. The firm is usually not as aggressive in maintaining established products and markets as some of its competitors, nor is it willing to take as many risks as other competitors. Rather, the firm responds in those areas where it is forced to, by environmental pressure.